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BULLETIN No. 46.

U. S. DEPARTMENT OF AGRICULTURE,
OFFICE OF EXPERIMENT STATIONS.

DIETARY STUDIES IN NEW YORK CITY

IN

1895 AND 1896.

BY

W. O. ATWATER, Ph. D., and CHAS. D. WOODS, B. S.

WASHINGTON:
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LETTER OF TRANSMITTAL.

United States Department of Agriculture,
Office of Experiment Stations,
Washington, D. C., November 10, 1897.

Sir: I have the honor to transmit herewith a report on investigations of the food habits of a number of families in the congested districts of New York City in 1895 and 1896. This report was prepared by Profs. W. O. Atwater and C. D. Woods, under whose immediate direction the investigations were conducted.

The general plan of the inquiry consisted in visiting a number of typical families in the worst congested portions of the city, observing the kinds and amounts of food which they bought and the prices which they paid, noting whether they obtained good weight and measure, and subjecting specimens of the food materials to analysis for the purpose of learning their nutritive values.

In these inquiries the Department received the cordial cooperation of the New York Association for the Improvement of the Condition of the Poor. This organization, one of the oldest and largest benevolent associations in the United States, has the advantage of large resources, long experience, and close connection with the people in the congested quarters of the city. The work in New York was done in part by some of the district visitors of the association, but mostly by Dr. Isabelle Delaney, a practicing physician on the "East Side" in the lower part of the city. Dr. Delaney's relations with the people among whom she practiced her profession were such that she was admitted with the greatest freedom into the households, and was afforded every facility for making the desired observations. Dr. R. L. Slagle, who was employed in the investigation as chemist, spent some time in New York City and accompanied Dr. Delaney to the tenements and took specimens of the food for analysis. By the courtesy of Mr. A. W. Milbury, the manager of the Industrial Christian Alliance, a room in the building of that organization was, for a time, used as a temporary laboratory.

This report is respectfully submitted with the recommendation that it be published as Bulletin No. 46 of this Office.

A. C. True,
Director.

Hon. James Wilson,
Secretary of Agriculture.

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DIETARY STUDIES IN NEW YORK CITY IN 1895 AND 1896.

INTRODUCTION.

The average person selects the different food materials offered in the market with less knowledge of their actual value (as a source of nourishment) than is found in almost any other line of purchases. When the problem of sustenance assumes the proportions that it does in the average family living in the "poor" quarters of our large cities, it is readily seen that such ignorance may entail much unnecessary expense, and among those who can least afford it.

OBJECTS AND PLAN OF DIETARY STUDIES.

It is by means of dietary studies that we can best obtain reliable data upon the food economy of people in different parts of the country and under different conditions of age, sex, health, occupation, and environment.

The general plan of such investigations includes an account of the amounts and composition of all food materials in the house at the beginning, purchased during, and remaining at the end of, the period of the investigation, and, when practicable, of all the kitchen and table wastes. The amount of different food materials on hand at the beginning and received during the period are added together; from their sum the amounts remaining at the end are subtracted. This gives the amount of each material actually used. From the amount thus obtained and the composition of each material, as shown by analysis, the amounts of the nutritive ingredients are estimated. From these are subtracted the amounts of nutrients in the waste, and thus the amounts of nutrients actually eaten are learned. Account is kept of the meals taken by the different members of the family and by visitors during the experimental period, which should not be less than seven days.

As a rule a woman requires less food than a man, and the amount required by children is still less, varying with the age. It is customary to assign certain factors which shall represent the amount of nutrients required by children of different ages and by women as compared with adult man. The various factors which have been adopted are as follows:

Factors used in calculating meals consumed in dietary studies.

One meal of woman equivalent to 0.8 meal of man at moderate muscular labor.
One meal of boy 14 to 16 years of age, inclusive, equivalent to 0.8 meal of man.
One meal of girl 14 to 16 years of age, inclusive, equivalent to 0.7 meal of man.
One meal of child 10 to 13 years of age, inclusive, equivalent to 0.6 meal of man
One meal of child 6 to 9 years of age, inclusive, equivalent to 0.5 meal of man.
One meal of child 2 to 5 years of age, inclusive, equivalent to 0.4 meal of man.
One meal of child under 2 years of age equivalent to 0.3 meal of man.

These factors are based in part upon experimental data and in part upon arbitrary assumptions. They are subject to revision when experimental evidence shall warrant more definite conclusions. By the use of these factors the number of meals actually taken by each member of the family is calculated into the equivalent number of meals for an adult man. In this way the total number of meals taken by the family is finally expressed in terms of meals per man, and by dividing this latter value by the number of meals taken per day (usually three) the equivalent number of days for one man is obtained. The total nutrients of the food eaten divided by this equivalent number of days for one man gives the amounts of nutrients "per man per day."

DIETARY STANDARDS.

American and European investigators have done a great deal of work along the line of determining the rations best adapted to domestic animals under different conditions. Attempts have been made to determine in a similar manner the amounts and proportion of nutrients best suited for the needs of man under different conditions of activity.

The most satisfactory standards for dietaries must be based upon the quantities of nutrients best suited to the actual bodily needs of a particular individual or class, but unfortunately experimental data are too incomplete for reliable estimates of such physiological demands. On this account the so-called dietary standards are for the most part based upon the observed facts of food consumption. The standards[1] which are given below are based upon the assumption that the body requires for its nourishment enough protein to replace all the nitrogenous substances consumed in the body and enough energy to supply the demand for heat and for muscular and other work. They differ from the standards proposed by Voit and others in Europe over twenty years ago in that they call for larger amounts of protein and energy. These differences are partly the result of more recent research in the science of nutrition, but are due chiefly to the evidence obtained from the study of American dietaries.

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[1] Connecticut Storrs Sta. Rpt. 1891, p. 144. See also U. S. Dept. Agr., Office of Experiment Stations Bul. 21, p. 206 et seq.

Standards of daily dietaries (Atwater).

	Protein.	Fuel value.	Nutritive ratio.
	Grams.	*Calories.*	
Man without muscular work	100	2,700	1:5.6
Man with light muscular work	112	3,000	1:5.5
Man with moderate muscular work	125	3,500	1:5.8

These standards are to be understood simply as tentative estimates of the protein and energy required. They are in no sense to be considered as final.

In the above standards but one of the nutrients of the food, protein, is given. As the chief function of the fats and carbohydrates is to serve as fuel, it is of more importance that they should be sufficient in amount than that they should be in definite relative proportion to each other. The ratio between the amount of protein and the other organic nutrients in the food is called the nutritive ratio. Since the fuel value of fat is about two and one-fourth times that of carbohydrates or protein, the quantity of fat is multiplied by 2¼ and added to the carbohydrates, the nutritive ratio being obtained by dividing this sum by the amount of protein. If the fats and carbohydrates are very largely in excess of the protein, the nutritive ratio will be large (wide), becoming smaller (narrower) as the relative amount of protein increases.

THE REGION IN WHICH THE STUDIES WERE MADE.

The food investigations here reported consisted mainly of the studies of dietaries of families of the poorer classes in New York City. Several of the families lived on the "West Side" in the neighborhood of Forty-third street and Eleventh avenue. The majority, however, were in the "East Side" near the junction of Cherry and Catherine streets. The district in which they lived is that which one sees in crossing the East River Bridge from the New York end and looking out on the north just before coming to the river. It is one of the worst congested districts of New York and typical of the portions of the city known as slums. The families whose dietaries were studied were selected as representative of the population of these districts. They were chosen mostly by Dr. Isabelle Delaney, whose long experience in mission work, and especially as the family physician of a very large number of the people in the region referred to, gave her unusual facilities for understanding the people and their condition, experiences, and ideas, while her sympathy with them and their confidence in her secured the freest admission to their tenements, not only for herself, but also for anyone whom she might choose to bring with her.

THE STUDIES.

Dietary studies were carried on in twenty-one different families, including the family at a mission, and in addition one dietary study was made at the day nursery connected with the mission. This latter study was so made as to really give four separate dietaries, one of the care takers and three among the children of different ages.

The people in whose families the studies were made represented a large number of occupations. In some instances they were slovenly and shiftless and took little interest in the appearance of their homes and tables. Other families, though ignorant, were willing and anxious to learn how they might improve their habits of living.

The main results of these studies are stated in the following pages with a brief discussion of the chief features of each. Detailed tables showing all the data upon which the discussions are based are given in the Appendix (pp. 67–117). For convenience in comparison the results of each dietary are summarized in terms of protein and potential energy (fuel value). In connection with each discussion will be found a "10-cent" table, in which there is shown the price per pound actually paid for the chief food materials used in the dietary and the amount that could be obtained for 10 cents at the prices paid and weights obtained by the family. The table also shows the weights of protein and the fuel value of the nutrients which the 10 cents' worth of food contained. In such a table it is possible to compare the pecuniary economy of different food materials at the prices paid.

In the following discussion the value of the waste in the different dietaries has been computed from the ratio of the protein in the waste to the protein in the food purchased. This food constituent being the most expensive of the three classes of nutrients (protein, fat, and carbohydrates), is the best suited for a measure of the value of the material wasted. In many cases the value of the waste is so small as to be ignored.

DETAILS OF THE DIETARY STUDIES.

DIETARY STUDY OF A MECHANIC'S FAMILY (No. 30).

This study was made during ten days in the middle of April. The family consisted of the father (Irish), the mother (English), and three daughters, aged 11 years, 8 years, and 8 months. The man was a repairer of soda-water apparatus, and until hard times came on earned good wages. The woman was sickly, and most of the work, including all of the marketing, was done by the 11-year old daughter, who was usually imposed upon by the marketmen. The family was very poor, and had received a great deal of help from the Association for the Improvement of the Condition of the Poor. The building in which they lived was in bad repair. The whole family was shiftless and careless.

The results of the study.[1]—The results of this dietary study, calculated to the "per man per day" basis, are briefly summed up in the following table:

TABLE 1.—*Weights per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 30.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.70	45	64	......	....	......	13.8	29.4	45.9	......	21.8
Pork, lard, etc	.15	9	11	......	....	......	2.9	5.7	8.0	......	4.9
Poultry	.09	5	4	......	....	......	1.8	3.5	3.1	......	5.3
Fish, etc	.37	14	3	3	....	......	7.3	8.9	1.9	0.6	7.6
Eggs	.08	5	4	......	....	......	1.5	3.5	2.7	......	2.9
Butter	.05	......	17	......	....	......	.9	.2	12.3	......	2.9
Cheese	......	......	......	......	....	......	......	.1	.2	......	2.0
Milk	.80	12	15	18	....	......	15.7	7.8	10.4	3.4	7.0
Condensed milk	.03	1	1	8	....	......	.6	.5	1.0	1.4	1.6
Total animal food	2.27	91	119	29	1,600	18	44.5	59.6	85.5	5.4	56.0
Cereals, sugar, etc	1.36	48	14	396	....	......	26.7	31.6	10.1	75.0	18.4
Vegetables	1.13	9	1	59	....	......	22.1	6.1	.7	11.2	13.4
Fruits	.34	5	5	44	....	......	6.7	2.7	3.7	8.4	12.2
Total vegetable food	2.83	62	20	499	2,485	14	55.5	40.4	14.5	94.6	44.0
Total food purchased	**5.10**	**153**	**139**	**528**	**4,085**	**32**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Waste	......	**4**	**11**	**2**	**130**	**1**	......	**2.8**	**7.9**	**.3**	......
Total food eaten	......	**149**	**128**	**526**	**3,955**	**31**	......	**97.2**	**92.1**	**99.7**	......

Discussion of results.—The total cost of the food purchased is very high. This family paid $10.22 in ten days, or at the rate of about $31 per month for food, exclusive of beverages and condiments. Their rent was $12 per month. When the man had work, he earned about $50 per month. Deducting the cost of food and rent from this, only $7 per month remain for fuel, lights, clothing, and the numerous other requirements of a family.

With good management in its purchase and preparation, food sufficient to meet the needs of a man at moderate work for a day can be obtained at a cost ranging from 15 to 20 cents. The food of the family of a well-to-do professional man, whose dietary was recently studied,[2] cost 18 cents per man per day, or but little more than half the cost in this family. By the proper expenditure of their money the New York family would have been able to buy their food for $15 to $20 instead of $30 per month.

From the cost of the different classes of food as given in the table it will be seen that 18 cents (56 per cent of the cost of the day's food) was spent in the purchase of animal food and 14 cents (44 per cent) for vegetable food. More than one-half of the cost of animal food is found under "beef, veal, and mutton" and "fish." The large cost of the vegetable food is explained by the use of high-priced prepared flours (at 5 to 7 cents a pound), buns at 5 cents a pound when wheat flour was worth 2 cents a pound, etc. Bananas and oranges were extravagant foods for people in their circumstances.

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[1] For detailed data of this study see Appendix, p. 68.

[2] U. S. Dept. Agr., Office of Experiment Stations Bul. 32, p. 15.

The great trouble here, as in so many of the poor families of the congested district, lies in unwise expenditure fully as much as in a limited income.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 30.

Kind of food material.	Cost per pound.[a]	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Round steak	15.2	10.5	54	37	....	565
Corned brisket	6.5	24.5	103	137	....	1,695
Veal, breast	4.1	39.0	170	62	....	1,275
Mutton:						
Chuck	7.0	23.0	74	173	....	1,910
Loin	17.8	9.0	34	73	....	820
Shoulder	11.0	14.5	55	64	....	820
Ham	20.0	8.0	41	67	....	790
Chicken	17.8	9.0	31	26	....	370
Cod (fresh)	8.2	19.5	60	....	....	245
Flounder	6.2	26.0	46	2	....	205
Haddock	8.4	19.0	44	1	....	190
Shad	13.3	12.0	31	16	....	275
Shad-herring	4.0	40.0	133	22	....	750
Eggs	10.7	15.0	56	40	....	600
Milk	2.8	58.0	54	65	82	1,160
Condensed milk	16.0	10.0	17	27	146	920
Self-raising flour	5.2	31.0	82	10	666	3,160
Bread	2.5	63.5	167	16	921	4,610
Buns	5.5	29.0	74	54	463	2,700
Rolls	4.0	40.0	135	4	679	3,375
Canned asparagus	14.5	11.0	5	....	9	55
Cabbage	1.7	....	49	8	132	820
Celery	11.4	14.0	6	....	12	75
Potatoes	2.0	....	39	2	335	1,550
Bananas	7.4	....	4	3	83	385
Oranges	4.9	....	4	3	44	225
Peanuts	18.0	....	158	236	148	3,450

[a] In this and the following tables of a similar character the values in the column headed "Cost per pound" represent not the current market prices supposedly paid, but the actual cost per pound as determined by reweighing the materials. It is probable that the nominal price was, in most cases, the nearest whole number and that variations from this are due to shortage or excess of weight given by the dealer. The values of all the food materials are given on the per pound basis. For calculating to other bases it may be roughly assumed that 1 dozen eggs weighs from 1¼ to 1¾ pounds, according to their size; a quart of milk a trifle over 2 pounds, and a peck of vegetables from 12 to 15 pounds.

Other food materials which were used by this family, but not included in the above list, were beef suet, mutton neck, pigs' feet, clam chowder, Swiss cheese, butter, crackers, starch, sugar, soup greens (carrots, leeks, onions, and parsley), radishes, rhubarb, and turnips.

The great variety and unwise selection of the food purchased by the 11-year-old girl who did most of the work and all of the marketing is clearly shown by the above list. That she was imposed upon by the marketmen is brought out by the table. The excessive cost of the food of this family is due to both of these causes. The cost of their living is extravagant for a well-to-do family, and for people in their condition ("very poor") it is ruinous.

The comparatively expensive nature of most food fishes is also clearly indicated in the table. The shad-herring were very abundant and sold at a low price, so that they alone of all the fish purchased were economical. Next to veal they were the cheapest source of animal food this young housekeeper found. The self-raising flour was much more expensive than wheat flour, with the necessary baking powder, would have been, and it was of such quality and cost that 10 cents did not purchase nearly as much nutriment as would be furnished by rolls, even at 4 cents a pound.

The childish taste of the girl led her to purchase peanuts. In doing so she acted wisely, though unconscious of it. The food value of the peanut is not generally appreciated. While it may be somewhat difficult of digestion, there is no reason to believe that it is not as completely digested as any similar food. It will be observed that the peanuts, even at the price paid a street vender, furnish more protein for 10 cents than any other kind of food except the breast of veal, which was bought at the unusually low price of 4 cents a pound.

The food purchased per man per day furnished one-fourth more nutriment than is needed for a man at moderate work. Three per cent of the total food (10 per cent of the excess) was thrown away in the table and kitchen wastes. As practically all of the wasted protein came from the animal food, 1 per cent per man per day was thus wasted. After deducting this waste, the nutrients eaten per man per day were still in excess of the amount actually required. The food eaten contained at least 25 grams of protein and a fuel value of 600 calories per man per day more than was needed by a man at moderate work. As the man was out of work at this time, it is probable that he and his family would have been well nourished if the food had contained only 100 grams of protein and had a fuel value of 3,000 calories per man per day.

The nutritive ratio of the food eaten (1:5.5) is narrow and agrees quite closely with that of the so called dietary standards.

Suggestions for changes and improvements.—The amount of food purchased might have been reduced 25 or 30 per cent and a considerable saving of money effected thereby. A more judicious selection of food and greater attention to the details of marketing and the preparation of the food might have still further reduced the cost. Such carefulness in purchase and preparation would also reduce the kitchen and table wastes so that practically no food would be wasted. The more intelligent selection of food, from both the nutritive and pecuniary standpoints, would preclude the purchase at the prices paid of such foods as chicken, cod, flounder, and shad, condensed milk, canned asparagus, prepared flours, radishes, celery, cherry jelly, etc., and would lead to the increased purchase of the more economical foods, including peas, beans, wheat flour, rice, and the cheap but nutritious cuts of beef, veal, and mutton. In this way a large proportion of the money spent for food could have been saved, with advantage to health and without interfering with the palatability of the food eaten. At present this end seems almost unattainable.

DIETARY STUDY OF A CARPENTER'S FAMILY (No. 31).

This study was made during ten days in the last half of April. The family consisted of the father, mother, and three children—two boys, 18 and 9 years old, and one daughter of 12 years. The parents were German peasants, who, when they first came to New York, were sickly. The husband was stupid, but the woman unusually bright for one in her station. Previous to the study the family had been much benefited by the suggestions of one of the university settlement physicians concerning the selection of food materials. The man earned $10 a week. The older son paid $5 a week to his parents. The woman was a "tenement housekeeper" and the rent of their four well-lighted rooms cost $3 a month besides her work.

The results of the study.[1]—The results of this study are briefly summed up in the following table:

TABLE 2.—*Weights per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 31.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.55	46	36	......	....	......	12.1	30.5	23.3	......	22.5
Pork, lard, etc	.23	12	41	......	....	......	5.1	8.3	26.5	......	9.2
Eggs	.23	16	11	......	....	......	5.0	10.3	7.2	......	11.4
Butter	.10	1	39	......	....	......	2.3	.4	25.3	......	12.5
Milk	.95	14	17	22	....	......	20.8	9.4	11.1	4.7	11.4
Total animal food	2.06	89	144	22	1,795	15	45.3	58.9	93.4	4.7	67.0
Cereals, sugar, etc	1.10	46	8	330	....	......	24.2	30.5	5.5	71.9	15.9
Vegetables	1.36	16	2	97	....	......	29.9	10.5	1.1	21.2	14.7
Fruits	.03	......	......	10	....	......	.6	.1	......	2.2	2.4
Total vegetable food	2.49	62	10	437	2,140	8	54.7	41.1	6.6	95.3	33.0
Total food purchased	**4.55**	**151**	**154**	**459**	**3,935**	**23**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Waste	......	**3**	**10**	**1**	**110**	(*a*)	......	**2.2**	**6.2**	**.3**	......
Total food eaten	......	**148**	**144**	**458**	**3,825**	**23**	......	**97.8**	**93.8**	**99.7**	......

a Estimated value of waste less than 0.5 cent.

Discussion of results.—The total cost of the food for ten days was $8.78, or about $27 per month. The rent was $3 per month, in addition to the labor of the woman as the tenement housekeeper. The income of the family was about $60 per month, so that just half was expended for rent and food. With the remaining $30 this family lived comfortably and still were able to save something.

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[1] For detailed data of this study see Appendix, p. 70.

Nearly 70 per cent of the total cost of the diet was expended for animal food—chiefly beef, eggs, butter, and milk. The vegetable foods purchased were largely cereals, sugar, and ordinary vegetables. The cost of the food per man per day in this dietary study was not excessive, but it was greater than is necessary to purchase the same quantities of nutrients in other and fully as desirable kinds of food.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 31.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
Beef:	*Cents.*	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Flank	8.2	19.5	83	103	....	1,300
Round	7.0	23.0	125	46	....	940
Frankfort sausages	15.2	10.5	49	55	....	710
Pork chops	8.6	18.5	75	136	....	1,570
Eggs	10.3	15.5	60	43	....	645
Milk	2.7	59.0	55	67	84	1,195
"Breakfastina"	3.0	53.0	161	24	1,078	5,305
Hecker's flour	3.2	50.0	165	15	1,105	5,345
Wheat flour	2.5	63.0	203	19	1,333	6,475
Rye bread	2.8	57.5	170	20	921	4,660
Coffee cake	5.5	29.0	68	52	424	2,500
Red cabbage	5.1	....	13	3	34	225
Potatoes	1.5	....	51	2	439	2,025
Dried peas	6.4	25.0	171	8	437	2,565

Other food materials which were used by this family, but in smaller quantities, were beef-stew meat, suet, cottolene, butter, rice, wheat bread, sugar, carrots, celery, soup greens, onions, sauerkraut, turnips, and jelly.

So far as the cost of actual nutrients is concerned, the vegetables, as cabbage, carrots, celery, etc., were the most expensive kind of foods used in this dietary. These were, however, purchased for the most part in bundles of "soup greens," and were chiefly used for flavoring. The total cost of such greens for the ten days was only 20 cents, and their use was necessary to make palatable soups. The price paid for dried peas was too high. If they had been bought for a proper price, they would have been the cheapest source of protein of all the foods used. The round steak was the cheapest source of animal protein this family found. The cheapest foods were the cereal preparations and the peas. The family made their own bread, and to this is due the comparatively low cost of the vegetable foods (8 cents per man per day, against 15 cents per day for animal foods).

The food eaten contained an excess of the nutrients needed for a man at moderate work. Probably the family would have been as well nourished with 30 grams less of protein per man per day, and considerably less of fat and carbohydrates (starch, sugar, etc.), which serve chiefly as fuel. Such a saving in the nutrients would probably be desirable from the hygienic as well as the pecuniary standpoint. The nutritive ratio (1:5.3) is small. No change in selection of food would improve the diet from the standpoint of the nutritive ratio.

The kitchen and table wastes were commendably small. The wastes were, however, practically all from the animal foods. Two per cent of the protein and about the same per cent of the fuel value or potential energy of the food was wasted.

Suggestions for changes and improvements.—The chief suggestion in the way of improvement from the hygienic and pecuniary standpoint is a reduction of one-fifth or thereabouts in the nutrients in the food eaten per man per day. If this change were made and the 4 or 5 cents a day which would be thus saved were spent in the purchase of fruits and vegetables, the family would in all probability have been better nourished and have had better health. The effect of these food materials is not at all adequately measured by their food value as shown by chemical analysis.

Round steak and pork chops were the principal meats used by the family. Valuable as is round steak as a cheap source of animal protein, the use of some other of the low-priced cuts of beef for stews, "pot roasts," etc., would have made a rational change in the bill of fare and at the same time have made the food less expensive. Eggs are a very desirable animal food, but, as the above table shows, they were expensive. The ease with which they can be cooked probably accounts for their liberal use in this dietary. They could have been in part replaced by some other food, or, if they had been partly or entirely omitted from the diet, it would have still furnished sufficient protein and energy. The family used a very large amount of butter (1¾ ounces per man per day). From a pecuniary standpoint this should be reduced materially in amount.

DIETARY STUDY OF A JEWELER'S FAMILY (No. 32).

The study was made during ten days in the last half of April. The family consisted of the father and mother (both German); four sons, 18, 16, 10, and 8 years old; and one daughter 12 years old. The family was much neater and more thrifty than is usually the case on the crowded East Side. The husband earned $10 a week and the two eldest boys paid $10 a week to their parents. Although the husband's wages were small, the family succeeded in buying a piano and two of the children were taking music lessons.

The results of the study.[1]—The results of this dietary study are briefly summarized in the following table:

TABLE 3.—*Weights per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 32.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cts.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.51	34	51	1			20.0	34.3	47.7	0.2	36.9
Pork, lard, etc	.10	6	12				4.0	6.3	11.6		7.4
Fish, etc	.06	3					2.3	2.8	.1		3.1
Eggs	.16	11	8				6.3	10.7	7.2		10.1
Butter	.01		3				.4		3.3		1.4
Cheese	.01	2	2				.6	1.9	2.2		2.4
Milk	.04	1	1	1			1.5	.6	.6	.3	.5
Condensed milk	.11	4	4	27			4.5	4.2	3.5	9.2	4.9
Total animal food	1.00	61	81	29	1,120	12	39.6	60.8	76.2	9.7	66.7
Cereals, sugar, etc	.83	34	24	229			32.9	33.5	22.8	77.2	20.2
Vegetables	.68	6	1	32			26.6	5.5	.9	10.9	12.3
Fruits	.02			6			.9	.2	.1	2.2	.8
Total vegetable food	1.53	40	25	267	1,490	6	60.4	39.2	23.8	90.3	33.3
Total food purchased	2.53	101	106	296	2,610	18	100.0	100.0	100.0	100.0	100.0
Waste		2	2		15	(*a*)		1.6	1.8	0.1	
Total food eaten		99	104	296	2,595	18		98.4	98.2	99.9	

a Estimated value of waste less than 0.5 cent.

Discussion of results.—The total cost of the food (exclusive of beverages and condiments) for the family for ten days was $9.47, or about $29 per month. The rent was $14 per month. The total income was $90. As the family, after paying for food and rent, would have nearly $50 a month unexpended, it is easy to understand how they could buy a piano and pay for music lessons for the children.

From the cost of the different classes of food given in detail in the above table it will be seen that about 67 per cent of the total cost of the diet was expended for animal food, of which more than half was spent for beef, veal, and mutton.

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[1] For detailed data of this study see Appendix, p. 72.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 32.

Kind of food material	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
Beef:	*Cents.*	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Chuck	10.3	15.5	69	45	....	700
Cross ribs	13.9	11.5	39	118	....	1,255
Round	10.7	15.0	76	53	....	805
Sirloin	18.8	8.5	39	42	....	550
Bologna sausage	13.3	12.0	49	78	....	925
Cervelat sausage	20.0	8.0	59	93	22	1,200
Veal:						
Loin and kidney	16.0	10.0	42	12	....	285
Shoulder	10.0	16.0	72	38	....	650
Lamb, leg	13.3	12.0	46	74	....	875
Pork chops	11.4	14.0	56	102	....	1,180
Ham	21.3	7.5	29	72	....	790
Fresh cod	9.7	16.5	49	1	....	210
Eggs	10.0	16.0	60	42	....	635
Swiss cheese	29.1	5.5	44	55	2	700
Milk	2.5	64.0	60	72	90	1,285
Condensed milk	7.6	21.0	49	43	315	1,890
Wheat flour	2.4	68.0	238	13	1,479	7,160
Rice	6.4	25.0	56	3	571	2,600
Bread:						
Rye	3.1	51.0	161	10	793	4,005
Wheat	2.7	60.0	161	10	893	4,415
Milk rolls	4.6	35.0	85	96	543	3,470
Sugar buns	5.9	27.0	64	72	424	2.670
Doughnuts	6.7	24.0	42	147	311	2,815
Red cabbage	5.2	31.0	19	3	51	315
Canned peas	7.3	22.0	21	1	60	340
Potatoes	1.4	....	58	3	497	2,305
Sauerkraut	2.6	62.0	27	14	78	560

Other food materials which were used by this family, but which were not considered of sufficient importance to include in the above table, were beef shoulder, suet, butter, oatmeal, crackers, sugar, cabbage sprouts, soup greens, lettuce, pickles, lemons, and dried peaches.

Wheat flour, in this as in all other cases where it is used, is the cheapest food purchased. It may, however, be questioned whether there is anything saved in using home-made bread when wheat bread can be purchased, as in this instance, for 2.7 cents per pound. The "milk rolls" contained shortening and had seven-eighths of the fuel value of wheat bread, but only a little more than half the amount of protein. The wheat flour, and rye and wheat breads were the cheap sources of protein in this dietary. Sauerkraut has much the same composition as the cabbage from which it is made, but as it is sold at a lower price, 10 cents will pay for 50 per cent more nutrients in sauerkraut than in cabbage. The vegetables here, as elsewhere, were expensive sources of protein. It must, however, be kept in mind that such food materials seem essential to proper nutrition and that they have a value not expressed by their chemical composition.

The food eaten furnished, perhaps, as much protein as is needed per day by a man without much muscular work. The fuel value of the food eaten, however, was considerably less than the amount needed. The lacking fuel value could be supplied at small cost by foods containing starch and sugar or by the fat of meats. Nitrogenous foods, i. e., those which supply protein, are much more expensive than those which furnish the fuel ingredients. There was very little food wasted. The small waste of fats and carbohydrates is probably due in part to the fact that the diet contained so little of these constituents. The nutritive ratio (1:5.4) is very small. The addition of fats and carbohydrates, as suggested above, would make it larger.

Suggestions for changes and improvements.—If the members of the family were at all active in their habits, their diet would be improved by the addition of starch, sugar, or fatty foods. This would involve the more liberal use of sugar, butter, the fatter meats (as pork or mutton), or such foods as tapioca and corn starch. Such changes would only slightly increase the cost of the food and would be of undoubted advantage.

The table on page 16 indicates which of the foods already in use by the family were the cheapest sources of protein and of energy (fuel value). Other foods could be added to the list with advantage. Dr. Delaney states that this woman was very shrewd in marketing, and knew where she could get the most for the least money. While there was no extravagance in any of the foods purchased, the above opinion would seem to be founded more upon her general thriftiness than upon her selection of food and the prices which she paid. Beef sirloin at 20 cents a pound, bologna sausage and pork chops at 16 cents, and ham at 22 cents are hardly the food materials which furnish the most nutriment for the least money. Judgment in the selection of food, not so much by bulk as by the nutrients it contains, would lead here, as in other cases, to better and at the same time cheaper food.

DIETARY STUDY OF A SAILOR'S FAMILY (No. 33).

This study covered ten days in the latter part of April and the first of May. The family consisted of the father (English), the mother (Scotch), one son 11 years old, and four daughters aged 17, 8, 6, and 4 years. The man was a steward on board a vessel, but was at home during the period covered by the study. When employed, he earned $60 per month. The rent was $14 per month. The family were intelligent and thrifty, but not over neat.

The results of the study.[1]—The results of this study are briefly summed up in the following table:

TABLE 4.—*Weights per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 33.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cts.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.56	39	41	......	....	......	12.6	28.0	28.3	......	25.7
Pork, lard, etc	.28	13	43	......	....	......	6.3	9.1	29.2	......	9.7
Fish, etc	.17	7	4	......	....	......	3.7	4.8	2.5	......	5.2
Eggs	.25	15	11	......	....	....	5.8	11.0	7.7	......	9.5
Butter	.08	......	29	......	....	......	1.7	.3	19.9	......	7.3
Cheese	.01	2	2	......	....	......	.3	1.2	1.5	......	.9
Milk	.34	5	6	8	....	......	7.7	3.7	4.3	1.4	4.0
Total animal food	1.69	81	136	8	1,605	16	38.1	58.1	93.4	1.4	62.3
Cereals, sugar, etc	1.56	45	8	476	....	......	35.1	32.3	5.7	85.3	23.9
Vegetables	1.18	14	1	74	....	......	26.8	9.6	.9	13.3	13.8
Total vegetable food	2.74	59	9	550	2,585	10	61.9	41.9	6.6	98.6	37.7
Total food purchased	**4.43**	**140**	**145**	**558**	**4,190**	**26**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Waste	......	**1**	**2**	......	**20**	(*a*)	......	**.6**	**1.7**	**.1**	......
Total food eaten	......	**139**	**143**	**558**	**4,170**	**26**	......	**99.4**	**98.3**	**99.9**	......

a Estimated value of waste less than 0.5 cent.

Discussion of results.—The total cost of the food, exclusive of beverages and condiments for the family for the ten days of the study, was $10.27, or at the rate of about $31 per month. The rent cost $14 per month. If $60 per month represents the average income, there would remain after deducting the cost of the food and rent, only $15 per month for all the incidental expenses of a family of seven. The daily diet cost 26 cents per man; 16 cents (62 per cent of the total cost) was spent for animal food, and 10 cents (38 per cent) for vegetable food. Beef, eggs, butter, and milk were the principal animal foods used. The total cost of the food per man per day is much greater than it need have been. It is probable that a third more food was purchased than was necessary for proper nourishment.

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[1] For detailed data of this study see Appendix, p. 74.

The actual cost per pound of the food materials and the amount of nutrients which 10 cents would buy at the price paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 33.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Beef:						
Round	11.8	13.5	69	48	....	730
Sirloin	13.9	11.5	51	57	....	740
Corned brisket	[a]4.6	35.0	146	199	....	2,450
Mutton, leg	13.9	11.5	48	48	....	645
Pork, chops	11.0	14.5	55	105	....	1,200
Pigs' feet	5.3	30.0	84	78	....	1,070
Bacon	12.8	12.5	33	222	....	2,200
Shad	8.4	19.0	50	26	....	445
Eggs	9.4	17.0	62	45	....	670
English cheese	17.8	9.0	73	98	7	1,240
Milk	3.1	52.5	49	59	74	1,055
Wheat bread	2.9	55.0	136	25	737	3,810
Rolls:						
French	10.0	16.0	46	24	275	1,540
Water	5.7	28.0	73	16	438	2,245
Lima beans, dried	7.6	21.0	115	10	363	2,055
Canned corn	10.7	15.0	13	6	84	455
Potatoes	1.9	....	41	2	353	1,635
Canned tomatoes	8.0	20.0	12	2	42	240

[a] Possibly there is a mistake in price. Such meat is rarely found at so low a price. Since it was not practicable to verify the price after its low cost was noticed, it is omitted in the discussion of results.

Other food materials used by this family to a greater or less extent, but not included in the above table, were beef suet, butter, sugar, cabbage sprouts, onions, and soup greens.

Wheat flour is omitted from the above table, since the cost of that used in this dietary was estimated and not actually ascertained. It was doubtless, as in the other cases where it was used, the cheapest food purchased. Next to the corned beef and wheat flour, wheat bread was the cheapest food, both as a source of protein and of energy. The French rolls at 10 cents a pound were very expensive. They may have suited the palate better, but as shown by their chemical composition they were not as valuable as the water rolls at one-half or the bread at less than one-third their cost. Canned tomatoes, like the fresh vegetable, contain but little actual nutriment. They do, however, contain acids and salts, which from their medicinal effect make them of more value than is indicated in the table. The Lima beans used cost more than ordinary beans, but even at the price paid they were a cheap source of protein. The English cheese, at 18 cents a pound, was no better food than other cheese at less price. About 8 cents per pound is as cheap as shad is usually sold, but even at this price it was the most expensive animal food used. Bacon has a high fuel value, but is deficient in protein. The canned corn purchased for

10 cents had the same fuel value as 10 cents' worth of shad, but contained very little protein—no more, in fact, than the tomatoes obtained for the same price.

The food eaten contained a third more protein and had a third higher fuel value than is needed for a man without muscular work. The nutritive ratio (1:6.3) is larger than in the preceding dietaries. It is, however, narrower than most dietaries which have been studied, and may not be wider than was actually needed. This would be particularly true if the family engaged in active muscular exercise. The amount of food wasted in the dietary was very small. Less than 2 per cent of protein and less than 1 per cent of the energy were thrown away in the table and kitchen wastes.

Suggestions for changes and improvements.—Reducing the protein and fuel value of the food eaten 25 per cent would, of course, reduce the cost per man per day to about 20 cents, even if the same kinds of food were selected. This would make a saving of about $10 per month, so that instead of having only $15 this family would have about $25 a month for expenses other than rent and food. A further saving could be made in selecting foods along the line indicated above. The study of the market supply would enable them to purchase the kinds of foods which are abundant and cheap, and would give more variety at moderate cost. In selecting food, its nutritive value should be the guide rather than weight or bulk.

DIETARY STUDY OF A WATCHMAN'S FAMILY (No. 34).

This study was made during ten days in the early part of May. The family consisted of a father (German); mother (Irish); three sons, 20, 10, and 8 years old; and four daughters, aged 14, 6, 4, and 2 years. The father was a small man and very fat. He used to own a saloon, and was rather lazy. The mother was also small. The children were all rather puny and small. The household management was not very good, and they had little knowledge of the relation of food to health and strength. Except at breakfast the family sat down together to their meals, and the table looked rather neat. They all dressed well. The father earned $8 a week. The oldest son worked in a printing office, and paid $6 a week to his parents. They paid $12 per month for rent.

The results of the study.[1]—The results of this dietary study are briefly summed up in the following table:

TABLE 5.—*Weights per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 34.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.53	37	48	......	....	......	22.7	41.1	49.9	......	41.3
Pork, lard, etc	.02	1	2	......	....	......	.7	1.1	2.5	......	1.6
Eggs	.08	5	4	......	....	......	3.4	6.3	4.0	......	4.7
Butter	.06	......	23	......	....	......	2.6	.4	23.4	......	11.2
Milk	.41	6	7	9	....	......	17.7	7.1	7.8	3.2	6.1
Condensed milk	.07	2	3	16	....	......	2.8	2.6	2.9	5.2	5.0
Total animal food	1.17	51	87	25	1,125	10	49.9	58.6	90.5	8.4	69.9
Cereals, sugar, etc	.78	29	8	240	....	......	33.2	33.4	8.9	81.2	18.3
Vegetables	.40	7	1	31	....	......	16.9	8.0	.6	10.4	11.8
Total vegetable food	1.18	36	9	271	1,340	4	50.1	41.4	9.5	91.6	30.1
Total food purchased	**2.35**	**87**	**96**	**296**	**2,465**	**14**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Waste	......	**3**	**4**	**4**	**65**	**1**	......	**2.9**	**4.7**	**1.4**	......
Total food eaten	......	**84**	**92**	**292**	**2,400**	**13**	......	**97.1**	**95.3**	**98.6**	......

Discussion of results.—The total cost of the food, aside from cost of beverages and condiments, for the family for ten days was $8.14, or at the rate of about $25 per month. The rent was $12 per month. The total income was about $60 per month, $23 a month was left for the incidental expenses of a family of three adults and six children between the ages of 2 and 14 years. Ten cents per man per day (70 per cent of the total cost of the food) was expended for animal food and 4 cents (30 per cent of whole) for vegetable food.

The animal food purchased was mostly beef and lamb. Some eggs, butter, and milk were also used.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 34.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Beef:						
Rib	12.3	13.0	49	65	....	805
Shoulder clod	10.0	16.0	87	51	....	830
Sirloin	13.3	12.0	55	60	....	785
Rump, corned	10.3	15.5	64	97	....	1,165
Lamb:						
Breast	6.2	26.0	114	141	....	1,780
Leg (fat)	13.3	12.0	52	84	....	995

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[1] For detailed data of this study see Appendix, p. 76.

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 34—Continued.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Pork chops	13.3	12.0	47	85	....	980
Eggs	7.3	22.0	83	59	....	890
Milk	2.1	77.0	72	87	109	1,555
Condensed milk	10.7	15.0	31	40	220	1,400
Rice	5.9	27.0	58	3	60	510
Bread, wheat	2.4	65.5	190	41	1,367	6,765
Soda crackers	8.9	18.0	52	48	401	2,305
Jumbles	8.9	18.0	31	80	265	1,960
Canned corn	10.0	16.0	13	6	88	470
Peas:						
Dried	5.0	32.0	218	10	556	3,265
Green	8.0	20.0	25	2	92	500
Potatoes	2.2	....	34	2	292	1,355
Canned tomatoes	6.7	24.0	13	2	45	265

Other food materials which were used by this family, but (with the exception of butter) in smaller amounts, were beef-soup meat, veal rib, butter, sugar, soup greens, onions, and turnips.

This family bought wheat bread at the low price of 2½ cents per pound. This is probably as cheap as home-made bread. The bread, costing 81 cents, furnished two-thirds as much nutriment as the animal food, which cost $5.69. This is shown in the following table:

Comparative cost of wheat bread and animal food in dietary study No. 34.

	Cost.	Protein.	Fuel value.
		Grams.	*Calories.*
Total animal food purchased	$5.69	2,950	65,135
Total wheat bread purchased	.81	1,542	46,975

The soda crackers and jumbles cost two or three times as much as the wheat bread, and are practically of the same composition, except that they contain a little more fat. The dried peas were an exceedingly cheap source of protein. The difference in the cost of nutrients in green peas and dried peas is strikingly pointed out in the table, the former being about eight times that of the latter. At the prices paid the dried peas were, with the possible exception of wheat bread, the most economical food used. The green peas were, however, the most expensive, so far as the cost of nutrients is concerned, of any of the foods except the canned tomatoes. The money paid for breast of veal was the best expenditure made for animal food. This meat was probably used as a stew, and in this way was all eaten. At the prices paid condensed milk is not so economical nor so good a food as fresh milk. The corned beef cost too much; equally good could have been purchased for 8 or 10 cents a pound.

The family were underfed. The nutritive ratio (1:6) was very nearly that suggested in the dietary standards, but too little food was eaten. According to the ordinarily accepted standards, a man at light work should have a diet furnishing 100 or more grams of protein per day and about 3,000 calories of energy.

The family were trying to live economically, but in doing so failed to get enough nutriment. Instead of eating a sufficient amount of inexpensive but nutritious food, they made a poor selection and were underfed. Their income would not warrant a greater expenditure for food per man per day than was actually made (14 cents). If the daily diet had been made to contain 50 grams more protein and 1,000 more calories, it would have cost 20 or 21 cents per man per day, provided the same food materials were selected as before. It is possible to buy the needed protein and energy without exceeding the 14 cents per day actually expended, although such a diet would have no great variety.

Suggestions for changes and improvements.—The family used altogether too much butter for economy. This is the most expensive form in which animal fat is purchased. One-ninth of the total cost of the food was expended for butter. The same money spent for "breast of lamb" would have furnished as much fat as the butter and at the same time have added 1,000 grams of protein to the food. This alone would increase the protein per man per day 20 grams. The beef used in this dietary was also too expensive. More bread, less butter, more of cheaper but equally nutritious cuts of meats, and a liberal use of peas and beans would make it possible for this family to be much better nourished than was the case, and without additional cost.

DIETARY STUDY OF A CARPET DYER'S FAMILY (No. 35).

This study was made during the first ten days of May. The family consisted of the father and mother (both Irish); three sons, aged 12, 7, and 3 years; and six daughters, aged 14, 11, 6, 4, and 2 years, and 8 months. There were also three men boarding with the family. The woman took in sewing, and the 14-year-old daughter did the housework and the marketing; the latter was not judiciously done. Although there was excellent opportunity for ventilation, the rooms in which the family lived were filthy and foul-smelling beyond belief.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 6.—*Weights per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 35.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.11	8	12	......	....	......	5.0	11.1	12.3	......	10.3
Pork, lard, etc	.17	10	28	......	....	......	7.5	13.6	28.4	......	14.2
Poultry	.06	4	3	......	....	......	2.6	4.7	2.8	......	3.8
Fish, etc	.06	4	2	......	....	......	2.4	6.0	1.7	......	4.6
Eggs	.09	7	4	......	....	......	4.1	8.8	4.6	.....	7.5
Butter	.09	......	34	......	....	......	3.8	.5	34.4	......	15.4

[1] For detailed data of this study see Appendix, p. 78.

TABLE 6.—*Weights per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 35*—Continued.

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Cheese	0.01	1	2	......	....	......	.4	1.8	1.8	......	1.2
Milk	.28	4	5	6	....	......	12.4	5.8	5.2	2.1	5.4
Condensed milk	.01	......	......	3	....	......	.5	.6	.4	.8	.6
Total animal food	.88	38	90	9	1,030	10	38.7	52.9	91.6	2.9	63.0
Cereals, sugar, etc	.88	30	7	260	....	......	38.5	40.7	7.7	82.6	25.6
Vegetables	.47	4	1	32	....	......	20.7	5.9	.4	10.4	7.1
Fruits	.05	......	......	13	....	......	2.1	.5	.3	4.1	4.3
Total vegetable food	1.40	34	8	305	1,465	6	61.3	47.1	8.4	97.1	37.0
Total food purchased	2.28	72	98	314	2,495	16	100.0	100.0	100.0	100.0	100.0
Waste	......	1	5	4	65	(*a*)	......	1.2	3.8	1.2	......
Total food eaten	......	71	93	310	2,430	16	......	98.8	96.2	98.8	......

a Estimated value of waste less than 0.5 cent.

Discussion of results.—The animal food consumed per man per day cost 10 cents (63 per cent of the total cost of the food) and the vegetable food 6 cents (37 per cent of the whole). Over one-seventh of the whole cost of the food was paid for butter. Oatmeal at 4 cents a pound was the cheapest food, both as a source of protein and of potential energy, that this family purchased. The bread used cost over 4 cents a pound. Indeed, nearly everything used by the family cost more than was necessary if the marketing had been done judiciously.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 35.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
Beef:	*Cents.*	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Chuck	12.8	12.5	56	36	....	565
Cross ribs	13.3	12.0	40	121	....	1,290
Round	16.0	10.0	51	36	....	545
Pork:						
Chops	11.4	14.0	56	101	....	1,170
Bacon	15.2	10.5	28	186	....	1,845
Ham	13.9	11.5	43	109	....	1,190
Chicken	10.0	16.0	57	46	....	660
Fresh cod	10.0	16.0	48	1	....	205
Canned salmon	17.8	9.0	52	27	3	475
Canned sardines	12.3	13.0	96	48	....	840
Eggs	11.0	14.5	53	38	....	570
Cheese	20.0	8.0	68	88	6	1,120
Milk	3.1	52.0	49	59	74	1,055
Oatmeal	4.0	40.0	171	88	774	4,695
Bread	4.2	38.0	94	21	573	2,930
Cake	11.8	13.5	27	31	239	1,380
Macaroni	12.3	13.0	44	6	277	1,370
Potatoes	1.6	....	47	2	422	1,940
Jam	17.8	9.0	3	....	193	805
Prunes	15.2	10.5	6	2	173	750

Other food materials which were used by this family to a greater or less extent but are not included in the above table were dried beef, butter, condensed milk, barley, flour, buns, crackers, tapioca, sugar, cabbage sprouts, onions, soup greens, canned plums, and raisins.

According to the dietary standard (p. 7), a man at light muscular work requires not far from 112 grams of protein and 3,000 calories of potential energy per day. This dietary was low in protein and fuel value; and if the above standard be accepted as a measure of what these people actually needed, the food should have contained nearly 70 per cent more protein and furnished 25 per cent more energy.

Suggestions for changes and improvements.—There are other things about the manner of living of this family which need fully as much change as their food. It seems hopeless to attempt to express in terms of protein and fuel value what is needed for their better nutrition. The housekeeping needs to be revolutionized. While everything is so carelessly done it is almost useless to suggest improvements in the kinds and amounts of foods to be purchased. The dietary needed more protein, and a much smaller expenditure for butter would allow this family to procure it. They spent about as much for butter, fish, and chicken as for beef and pork, the amount spent for the beef and pork being 3.57 cents and for the butter, fish, and chicken 3.48 cents. The former furnished 1,645 grams of protein and 41,950 calories, and the latter 743 grams of protein and 35,700 calories. The expenditure for the butter, fish, and chicken might have been advantageously diminished and that for the beef and pork correspondingly increased.

With care in selection and skill in preparation a nutritious diet could be arranged for a man at light work at the cost of the food used per man per day by this family.

DIETARY STUDY OF FAMILY OF A CARVER IN A RESTAURANT (No. 37).

This study was made during ten days in the latter part of May. The family consisted of a man, his wife, and five daughters, aged 21, 20, 13, 7, and 5 years. The mother and husband were both born in Germany. The woman had been in this country about twenty-five years and the man about twenty years. The woman's first husband, the father of the children, was also a German. The stepfather was a carver in a restaurant and had only one meal (dinner at night) at home. He earned $9 a week. The two eldest daughters worked in a box factory, and they each earned $7 to $8 per week. They paid only $3 each for board. The remaining $4 or $5 was spent in dress.

The husband used tobacco and drank beer occasionally, rarely drinking to excess. He weighed about 150 pounds, the mother about 140, and the two eldest girls about 120 pounds each. The mother was hardworking and thrifty.

The tenement in which the family lived consisted of four rooms: one was lighted from two windows in the street. The kitchen and one bedroom opened on the air shaft. The other bedroom was a "dark" room. The bedrooms were so small that there was only room for the bed. Two of the children slept on mattresses on the floor of the front room. There were set tubs and a sink in the kitchen. There was no bath tub which the family could use. The kitchen served as a dining room. The table was not set and the family did not sit down together to eat their meals. There were no regular meals, the table serving more as a lunch counter where each one went and helped himself. No meal was prepared at noon. The oldest daughter contributed to a "common spread" with her shopmates, and the children were given 5 cents each per day with which they bought cakes and fruit at the open stands on the street.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 7.—*Weight per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 37.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.45	27	24	......	....	......	20.6	30.6	26.8	......	23.1
Pork, lard, etc	.23	14	36	......	....	......	10.4	16.4	40.4	......	18.8
Eggs	.05	3	2	......	....	......	2.4	3.6	2.5	......	4.5
Butter	.03	......	11	......	....	......	1.3	......	12.2	......	5.8
Condensed milk	.14	5	5	34	....	......	6.5	6.1	5.2	12.9	7.0
Total animal food	.90	49	78	34	1,065	8	41.2	56.7	87.1	12.9	59.2
Cereals, sugar, etc	.61	25	10	163	....	......	27.9	29.1	11.2	62.4	21.1
Vegetables	.61	12	1	46	....	......	27.8	13.7	1.5	17.5	16.7
Fruits	.07	1	......	19	....	......	3.1	.5	.2	7.2	3.0
Total vegetable food	1.29	38	11	228	1,190	5	58.8	43.3	12.9	87.1	40.8
Total food purchased	**2.19**	**87**	**89**	**262**	**2,255**	**13**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Waste	......	**2**	**1**	**1**	**20**	(*a*)	......	**2.7**	**1.8**	**.6**	......
Total food eaten	......	**85**	**88**	**261**	**2,235**	**13**	......	**97.3**	**98.2**	**99.4**	......

a Estimated value of waste less than 0.5 cent.

Discussion of results.—The total cost of the food (exclusive of condiments and beverages) for the family for ten days was $6.01, or at the rate of about $18 per month. The rent was $14 per month. After paying for rent and fuel there would remain about $28 per month for the other expenses of the family exclusive of the two older girls. The cost of the food, 13 cents per day, was small, but the food supplied insufficient nutriment as compared with the ordinary dietary standards. The animal food cost 8 cents (57 per cent of the total cost of the food) and the vegetable food 5 cents (43 per cent of the whole) per man per day.

The beef, veal, mutton, and pork cost two-thirds of the whole sum expended for animal food.

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[1] For detailed data of this study see Appendix, p. 80.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 37.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Beef, shank	3.6	44.5	115	67	....	1,095
Veal, shoulder	8.9	18.0	84	44	....	755
Mutton chops	9.4	17.0	64	137	....	1,535
Pork chops	11.8	13.5	53	97	....	1,120
Ham	12.8	12.5	64	66	....	875
Salt pork	10.0	16.0	2	397	....	3,725
Eggs	12.3	13.0	49	35	....	525
Condensed milk	7.0	23.0	53	46	339	2,035
Bread:						
Rye	3.7	43.5	125	9	691	3,430
Wheat	2.8	57.5	155	20	858	4,340
Cake	7.6	21.0	51	39	319	1,880
Rolls	5.4	29.5	71	81	457	2,920
Beans	5.4	29.5	165	15	471	2,745
Cabbage	3.8	....	18	3	50	305
Potatoes	1.6	....	42	2	360	1,665
Jelly	5.3	30.0	10	....	509	2,130

Besides the above food materials, there were also used, to a greater or less extent, beef suet, veal shoulder, lard, butter, flour, macaroni, lettuce, soup greens, onions, green peas, canned tomatoes, dried apples, and dried prunes.

The beans used were, at the prices paid, the cheapest source of protein. The shank of beef was also a cheap source of animal protein. Both as a source of protein and of potential energy wheat bread was cheaper than rye bread. The jelly used by this family was composed chiefly of glucose, with the addition of flavoring materials. The 500 grams of sugar which 10 cents' worth contained could have been bought in the form of granulated sugar for about 5 cents.

The nutritive ratio (1:5.4), as in most of these dietaries, is narrow, and in this respect the dietary conforms to the ordinary standards. The food furnished only about two-thirds the nutrients called for by the standards for a man at light muscular work (see page 7).

Suggestions for changes and improvements.—Increasing the amount of food the needed 40 or 50 per cent would, of course, increase the cost correspondingly, provided the same food materials were selected; but this would not be the wisest plan. To furnish the required amount of nourishment it would probably be necessary to increase the cost of the food to about 15 cents per man per day. For this amount it is possible to furnish in a palatable form the nutrients needed for the proper nourishment for a man for one day, provided proper food materials are selected. For instance, it would be more economical to use fresh milk instead of condensed milk, and the cheaper cuts of meat are much more economical foods than the eggs which were used.

The great trouble here, as in most of the cases studied, is in the lack of management. Dr. Delaney interested herself in this family, and some months after the dietary study was made writes to the effect that matters grew worse before any change could be made. The mother had an attack of gastritis, and one daughter remained at home to nurse her. The rent came due and some of the furniture had to be pawned to raise the money; and then the eldest daughter left home, disgusted with the bare-looking room. On the mother's recovery the physician (Dr. Delaney) insisted on the family having a meal at noon, and the girls were urged to come home for it. A place as housekeeper of the tenement house was found for the mother, and by paying $3 a month in addition four light rooms were procured. The family have improved in their way of living. The table is now set with a white cloth and the family sit down together. The mother has improved in health and strength. When it is necessary for the girls to carry a lunch the mother prepares it for them, and it costs less than a third of what it would otherwise.

DIETARY STUDY OF A SAILORS' BOARDING HOUSE (No. 38).

This study was made during ten days in the latter part of May. The family consisted of the husband (German), wife (German), two daughters (children of a former marriage), aged 18 and 16, and about four sailor boarders. They usually had from twelve to sixteen boarders. They charged the usual rates ($7 per week) at sailors' boarding houses for board and lodging. The woman was a good cook and the house had a good reputation. The same boarders return year after year. The daughters did the housework. The family were in excellent health. They were large, well formed, and hard workers.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 8.—*Weights per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 38.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.73	47	62	......	....	......	26.5	49.1	47.7	......	35.2
Pork, lard, etc	.12	5	27	......	....	......	4.3	5.7	20.5	......	8.2
Fish, etc	.17	5	......	......	....	......	6.3	5.8	.2	.2	5.3
Eggs	.07	5	3	......	....	......	2.5	4.9	2.6	......	5.6
Butter	.08	......	27	......	....	......	2.7	......	21.3	......	10.3
Cheese	.03	4	5	......	....	......	1.2	4.0	3.9	.2	3.4
Milk	.03	......	1	1	....	......	1.1	.4	.4	.4	.9
Buttermilk	.06	1	......	1	....	......	2.1	.8	.1	.7	.4
Condensed milk	.07	3	2	18	....	......	2.7	2.8	1.8	9.6	3.5
Total animal food	1.36	70	127	20	1,550	12	49.4	73.5	98.5	11.1	72.8

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[1] For detailed data of this study see Appendix, p. 82.

TABLE 8.—*Weights per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 38*—Continued.

Kind of food material.	Weight of food and nutrients (per man per day). Total food material.	Protein.	Fat.	Carbohydrates.	Fuel value.	Cost.	Percentages of total food. Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Cereals, sugar, etc	0.27	11	1	77	....	......	9.8	11.2	0.6	42.4	6.0
Vegetables	1.12	15	1	84	....	......	40.8	15.3	.9	46.5	21.2
Total vegetable food	1.39	26	2	161	785	5	50.6	26.5	1.5	88.9	27.2
Total food purchased	**2.75**	**96**	**129**	**181**	**2,335**	**17**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Waste	......	**1**	**4**	......	**40**	(*a*)	......	**.9**	**2.8**	**0.2**	......
Total food eaten	......	**95**	**125**	**181**	**2,295**	**17**	......	**99.1**	**97.2**	**99.8**	......

a Estimated value of waste less than 0.5 cent.

Discussion of results.—The cost of the food, 17 cents per man per day, would have been very reasonable if the food eaten had furnished sufficient nutriment. It was, however, deficient in both protein and fuel value when compared with ordinary dietary standards. The animal food cost 12 cents (73 per cent of the total cost of the food) and the vegetable food 5 cents (27 per cent) per man per day.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 38.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents. Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Beef:						
Round	13.9	11.5	59	42	....	635
Shank	5.9	27.0	86	49	....	810
Dried	21.3	7.5	72	15	1	440
Corned flank	7.0	23.0	82	193	....	2,130
Veal:						
Chops	8.0	20.0	93	50	....	855
Leg (no bone)	11.0	14.5	83	35	....	665
Pork:						
Chops	11.8	13.5	53	97	....	1,120
Ham	11.0	14.5	38	256	....	2,535
Flounder	4.4	36.0	59	3	....	270
Haddock	4.4	36.0	85	2	....	365
Eggs	11.4	14.0	49	35	....	525
Cheese	15.2	10.5	75	103	3	1,280
Buttermilk	1.3	128.0	104	18	174	1,310
Condensed milk	8.2	19.5	45	32	290	1,670
Rice	5.0	32.0	70	3	712	3,235
Bread	2.9	55.0	147	20	825	4,170
Beans:						
Dried	3.6	45.0	282	23	748	4,435
String	5.7	28.0	17	4	78	425
Beets	1.7	....	33	2	196	960
Cabbage	5.0	....	9	2	25	160
Potatoes	2.3	....	37	1	320	1,480
Cucumbers	3.7	....	10	2	31	185
Canned tomatoes	4.0	40.0	13	2	40	235

There was a large variety of food materials used in this dietary. Besides those enumerated in the above table, the following were used to a less extent: Beef suet, mutton-stew meat, bacon, lard, clams, butter, milk, flour, rye bread, sugar, soup greens, lettuce, green peas, onions, and radishes.

The mutton stew and the buttermilk were the cheapest sources of animal protein in this dietary. They also contained enough of the fuel constituents to make their total fuel value as great or greater than most of the foods used, except bread, dried beans, and rice. The food fishes contain so little fat that they have a small fuel value, and the haddock, which was a comparatively cheap source of protein, contained so little fat that in this dietary, which is deficient in fuel value, it was not an economical food. Ten cents expended for corned flank would have furnished practically the same quantity of protein as the haddock and 1,750 more calories of energy. In this instance whole milk was bought at a cost of about 11 cents per quart (5 cents per pound). At this price, which is nearly double the ordinary retail price, it was a more expensive food than condensed milk.

The cheapest food used was the dried beans. The protein consumed by this family could have been furnished in dried beans at a cost of 3 cents a day, while it would have taken 6 cents' worth of white bread, 16 cents' worth of round steak, or 56 cents' worth of string beans to furnish a similar amount.

The green vegetable foods are always expensive both from the standpoint of protein and of fuel value. This is illustrated by the above statement as well as in the preceding table.

When compared with the dietary standards this dietary seems to be deficient in nutrients, and especially in the constituents which serve as fuel. The nutritive ratio (1:4.9) is very narrow. This is merely another way of expressing the relatively small fuel value of the day's food. The latter should contain for such a family as this from 100 to 120 grams of protein per day, and have a fuel value of 3,000 to 3,500 calories.

Suggestions for changes and improvements.—The food used should be so changed as to furnish the needed protein and potential energy (fuel value). To do this involves the use of more foods rich in fat and carbohydrates (rice, sugar, the cereals and starchy foods) and less of fish and the leaner meats. There would be little difficulty in selecting from the foods used by this family a daily diet which would be ample for nourishment, and, if properly cooked and served, gratifying to the taste at a cost not to exceed 15 cents per man per day. Greater care in the selection and purchase of food would enable the family to obtain many of the foods at a lower price. This is notably the case with milk, which costs them nearly double the customary price.

DIETARY STUDY OF A TRUCKMAN'S FAMILY (No. 47).

This study was made during ten days in the first half of June. The family consisted of the father (Irish), mother, three sons aged 17, 13, and 9 years, and two daughters aged 21 and 16 years.

The father, 48 years of age, was a hard-working man, yet he was always behind with his bills. He owned his horses and carts, and this made his income uncertain. The wife was a very stout woman and drank beer from morning till night, although, as Dr. Delaney states, "she would deny it with the can under her apron." The eldest boy drove a truck for his father, but was heedless and careless, often injuring the horses. The daughters worked a few days now and then, occasionally a week at a time. All the family had good health. The daughters dressed quite stylishly when they went out; the mother had for clothing "nothing but the rags that she wore."

The tenement in which the family lived had four rooms; one lighted, the others on air shafts. The three boys slept on a sofa bed in the front room and the two girls in the dark bedroom beyond their parents' room. There were set tubs and a sink in the kitchen, a closet in the hall, but no bath tub. For this tenement on the second floor they paid $14 a month.

The meals were cooked at the usual hours, but the family never sat down together. Occasionally the men and the girls took their dinner outside. Ordinarily no tablecloth was used and there was no home life. The children were always sent for the groceries, vegetables, etc., and they bought to poor advantage. The house was always untidy, although the woman knew how to clean it.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 9.—*Weights per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 47.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.43	32	30	......	....	......	12.4	31.3	23.2	......	23.9
Pork, lard, etc	.10	5	23	......	....	......	3.0	4.5	18.2	......	5.0
Fish, etc	.04	2	......	......	....	......	1.1	1.8	......	......	1.2
Eggs	.10	6	5	......	....	......	3.0	6.0	3.5	......	5.4
Butter	.12	......	46	......	....	......	3.6	......	35.9	......	12.5
Cheese	.01	1	1	......	....	......	.2	.6	.6	......	.8
Milk	.39	6	7	9	....	......	11.3	5.6	5.5	2.6	6.8
Condensed milk	.04	1	1	9	....	......	1.1	1.3	.9	2.6	2.7
Total animal food	1.23	53	113	18	1,340	13	35.7	51.1	87.8	5.2	58.3
Cereals, sugar, etc	.84	29	13	230	....	......	24.4	27.8	10.4	66.8	18.8
Vegetables	1.20	21	2	85	....	......	35.2	20.4	1.5	24.8	17.8
Fruits	.16	1	1	11	....	......	4.7	.7	.3	3.2	5.1
Total vegetable food	2.20	51	16	326	1,690	10	64.3	48.9	12.2	94.8	41.7
Total food purchased	**3.43**	**104**	**129**	**344**	**3,030**	**23**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Waste	......	**4**	......	**19**	**95**	**1**	......	**4.1**	**.4**	**5.7**	......
Total food eaten	......	**100**	**129**	**325**	**2,935**	**22**	......	**95.9**	**99.6**	**94.3**	......

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[1] For detailed data of this study see Appendix, p. 84.

Discussion of results.—The total cost of the food for the family for the ten days of the study was $12.03, or about $36 per month. The rent paid was $14 per month. The cost of the food, 22 cents per man per day, is much too high. The cost of the animal food was 13 cents (59 per cent of the total cost of the food) and of the vegetable food 10 cents (41 per cent of the whole) per man per day. One-eighth of the total cost was expended for butter and one-third for meat and eggs. The prices paid for food were for the most part higher than would have been the case with careful marketing.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 47.

Kind of food materia	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
Beef:	*Cents.*	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Round	17.8	9.0	45	31	....	475
Corned brisket	8.0	20.0	83	110	....	1,365
Frankfort sausages	13.9	11.5	70	61	....	855
Veal, leg	11.8	13.5	64	27	....	515
Pork:						
Rib	10.3	15.5	63	114	....	1,320
Bacon	12.3	13.0	34	227	....	2,250
Fresh cod	7.4	21.5	64	1	....	270
Eggs	11.8	13.5	50	37	....	550
Milk	4.0	40.0	38	45	57	810
Condensed milk	16.0	10.0	23	20	148	885
Bread, wheat	3 9	41.0	111	14	620	3,125
Rolls	6.0	26.5	64	73	411	2,625
Cake	13.9	11.5	24	25	198	1,140
Beans:						
Dry	5.0	32.0	202	16	536	3,175
String	4.0	40.0	25	5	107	585
Greens	2.2	73.0	107	16	146	1,185
Canned pease	8.0	20.0	20	1	55	315
Potatoes	2.8	57.5	29	2	249	1,160
Strawberries	6.4	25.0	7	5	48	270
Jelly	13.9	11.5	4	....	251	1,065

Besides the above food materials the following were used to a less extent: Beef suet, cottolene, cheese, rye bread, apple pie, sugar, beets, onions, dried peas, and fresh and canned tomatoes.

Comparing the amounts obtained for 10 cents at the prices paid by this family and by some others of these, it will be frequently found that one-third or one-half more was obtained for the same money by other and more careful buyers.

Dried beans are decidedly the cheapest food this family used. Indeed, there are few cheaper or more nutritious foods than beans, peas, and similar foods. Their high percentage of protein makes them especially desirable, and if properly prepared they are as palatable as they are nutritious. Ten cents spent for dried beans secured as much protein as 80 cents spent for string beans or a dollar spent for canned peas. The sugar in the 10 cents' worth of jelly could have been bought in a better form (granulated sugar) for 3 cents. The rolls at about 6 cents a pound cost too much, as compared with wheat bread at 4 cents or flour at 2½ cents a pound. The milk cost about 9 cents a quart, or 50 per cent more than the customary price. Even at this price it was a cheaper and better food than condensed milk.

The table and kitchen wastes were not at all carefully saved. It is probable that the broken pieces from the table were considerable. In this case, as in so many of the families where dietaries were studied, it was practically impossible to obtain all of the wasted materials for analysis. It is a fair estimate that at least food which cost 1 cent per man per day was thrown away.

The standard for a man with moderate work calls for 125 grams of protein and a fuel value of 3,500 calories. Compared with this standard the family were undernourished, but the labor of the family for the most part was more nearly equivalent to light muscular work, and the 112 grams of protein and 3,000 calories per day in their dietary approaches quite closely to the standard for a man at moderate work. The family had the appearance of being undernourished, but this was probably due more to other causes and conditions than to a lack of nutrients in the food purchased.

Suggestions for changes and improvements.—With the conditions under which this family live it seems well-nigh hopeless to expect a change for the better. There would be no difficulty for ordinary, thrifty, careful people to purchase all the nutriment needed by this family for considerable less than they expended for food. To get people who were as shiftless and careless as this family to better their ways of living is quite another thing.

DIETARY STUDY OF A SEWING WOMAN'S FAMILY (No. 48).

This study was made during ten days in early June. The family consisted of the mother, five sons, 14, 11, 8, 4, and 3 years old, and one daughter 6 years old. The mother was a German, sober and thrifty. She had an old sewing machine and was a fair seamstress. Occasionally she went out house cleaning, but usually did dressmaking for poor people at $2 or $3 per suit.

The eldest boy worked in a grocery store and received $3 per week. The father, who was a builder, was injured while at his work four years ago and has been hopelessly insane ever since. He did not live with the family.

The tenement which they occupied was on the first floor at the back, since if they lived up several flights it would be impossible to get custom. The house was the regular 25-foot front, with four tenements on a floor. The kitchen had set tubs and a sink. The closets were in the hallway on each floor. The mother kept the children's clothing very clean and neat. The house had a small yard at the back, where the children played a great deal, as the mother could see them from the window. There were two windows in the large room, one window in the kitchen, and a transom lighted the bedroom where the two eldest boys slept. The others slept in the large room and had a sofa-bed and one large bed.

The family ate in the kitchen. The mother always prepared some kind of a meal, and the children were all seated together. There was usually soup or stew at noon. The food was bought in the forenoon for the day at the small stores. The children were always out when the weather was suitable; the house was kept very clean.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 10.—*Weights per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 48.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.03	1	1	......	....	......	1.9	2.6	2.1	......	4.1
Pork, lard, etc	.07	5	8	......	....	......	3.8	8.1	20.1	......	9.7
Fish, etc	.02	2	1	......	....	......	1.0	3.7	2.5	......	3.2
Eggs	.13	8	5	......	....	......	6.9	13.5	13.4	......	15.8
Butter	.02	......	7	......	....	......	.9	......	16.0	......	4.1
Milk	.66	10	12	15	....	......	35.4	17.5	29.2	6.3	19.0
Total animal food	.93	26	34	15	485	5	49.9	45.4	83.3	6.3	55.9
Cereals, sugar, etc	.60	22	6	191	....	......	31.9	38.5	14.9	80.6	30.4
Vegetables	.34	9	1	31	....	......	18.2	16.1	1.8	13.1	13.7
Total vegetable food	.94	31	7	222	1,100	4	50.1	54.6	16.7	93.7	44.1
Total food purchased	**1.87**	**57**	**41**	**237**	**1,585**	**9**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Waste	......	**3**	......	**18**	**85**	(*a*)	......	**6.0**	**1.0**	**7.7**	......
Total food eaten	......	**54**	**41**	**219**	**1,500**	**9**	......	**94.0**	**99.0**	**92.3**	......

a Estimated value of waste less than 0.5 cent.

Discussion of results.—The total cost of the food for the family of seven was $2.47 for the week, or about $10 per month. The cost per person each day was less than 6 cents; per man per day the cost was 9 cents. Five cents per man per day (56 per cent of the total cost) was spent for animal food and 4 cents (44 per cent) for vegetable food. The cost of the food is unusually small in this study, but this is due to the small amount of food eaten and not to wise expenditure. The nutrients in the food are discussed beyond. If the day's food were brought to the usual standards it would double the cost of the food if the same selection were made.

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[1] For detailed data of this study see Appendix, p. 86.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 48.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Beef shank	10.0	16.0	41	24	....	390
Pork chops	11.8	13.5	53	97	....	1,120
Sardines	16.0	10.0	73	36	....	635
Eggs	11.0	14.5	55	39	....	590
Milk	2.5	63.0	59	71	89	1,265
Flour	2.3	69.0	220	21	1,449	7,040
Bread:						
Wheat	4.8	33.5	90	12	499	2,525
Rye and wheat, stale	2.5	64.0	216	6	932	4,765
Rolls	7.1	22.5	65	33	384	2,150
Cake	8.0	20.0	49	37	305	1,795
Beans	7.4	21.5	135	11	357	2,120
Potatoes	2.3	71.0	37	2	308	1.435
Tomatoes, canned	2.4	67.0	23	3	75	430

Other food materials not included in the above list are butter, barley, crackers, sugar, rhubarb, and radishes.

The family used very little wheat flour, which, as is nearly always the case, is the cheapest food obtainable. In New York bread can be bought nearly as cheap as flour, but this family did not succeed in doing this. They paid nearly 5 cents a pound for fresh wheat bread when it could have been bought for about 3 cents, and then economized by purchasing stale bread, for which they paid 2½ cents a pound, or nearly as much as fresh bread cost at some of the retail places. Dried beans also cost this family too much. It will be instructive to compare the purchasing power of 10 cents as expended by this family and by that in dietary No. 38.

Amounts of bread and beans purchased for 10 cents in dietary studies Nos. 38 and 48.

	Amount.	Protein.	Fuel value.
	Ounces.	*Grams.*	*Calories.*
Wheat bread:			
In dietary No. 48	33.5	90	2,525
In dietary No. 38	55.0	147	4,170
Dried beans:			
In dietary No. 48	21.5	135	2,120
In dietary No. 38	45.0	282	4,435

Dietary No. 48 contains the smallest amounts of nutrients of any with which the writers are acquainted. The following comparison of the results of this study with those of other reliable studies which show very small amounts of nutrients illustrates this fact:

Nutrients and fuel value per day in dietaries of poorly nourished people.

	Protein.	Fat.	Carbohydrates.	Fuel value.
	Grams.	*Grams.*	*Grams.*	*Calories.*
Family of negro farmer[a]	31	27	304	1,625
Laborer's family, Germany[b]	52	32	287	1,690
Abyssinian soldiers[c]	50	30	360	1,960
Sewing woman's family (dietary No. 48)	54	41	219	1,500
Same, calculated per woman	43	33	175	1,200
Two girls in Leipsic earning together $4 a week: Cost of daily food, 8.6 cents for each;[b] amounts per woman	56	51	229	1,645

[a] U. S. Dept. Agr., Office of Experiment Stations Bul. 38, p. 53.
[b] U. S. Dept. Agr., Office of Experiment Stations Bul. 21, p. 178.
[c] Compt. Rend. Soc. Biol., Paris, 1893, p. 251.

Suggestions for changes and improvements.—The family had a very small income, and they spent as much ($10 a month) as they could afford for food. Viewed from any standpoint, they needed a more generous and nutritious diet. It should be possible to make this money purchase considerably more nutriment than these people actually obtained. The greatest difficulty in the way was that the mother was obliged to earn the money for the food and clothes, as it took most of the boy's earnings to pay the rent, and on this account she could give little time to the preparation of food. This is one of the few instances in these studies where poverty is due more to smallness of income than to unwise expenditure. Making the money go as far as it may, the case is still a hard one. It is a difficult problem for a woman to care for a family of six children on an income of $30 to $40 a month. That the family was as well nourished as it was on such a slender diet is quite surprising. That larger and more nutritious diet would be very desirable can scarcely be doubted.

DIETARY STUDY OF A SHOPKEEPER'S FAMILY (No. 51).

This study was made during ten days in the middle of June. The family consisted of the father, 64 years old; three sons, 25, 24, and 15 years old; and two daughters, of 18 and 12 years.

The family were Irish-American Protestants. The father had a little business of his own in a basement, where two of the sons helped him. The profits were very small, and occasionally a brother in Brooklyn had to come to the rescue and pay the rent. The mother died some six years ago, and the eldest girl, at 12 years of age, had to take charge of the house. She was neat and thrifty, but had had very little training. The father and sons were sober and steady, but lacked push. The rent was $13 a month for four rooms, top floor, back. They were very bare, but were kept clean. Meals were prepared the best way the girl knew how, but a little teaching would do much in this case. The rooms were not well lighted. The bedrooms had no windows, but opened on a room which had fair light.

The buying was done in the forenoon at the small grocery stores for cash. No ice was used.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 11.—*Weights per man per day and percentages of food materials purchased, wasted, and eaten in dietary study No. 51.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.22	15	9	......	....	......	7.8	19.2	8.0	0.1	14.0
Pork, lard, etc	.13	2	49	......	....	......	4.6	2.1	44.9	......	6.7
Fish, etc	.08	2	......	2	....	......	2.7	2.8	.1	.4	5.2
Eggs	.13	8	6	......	....	......	4.6	9.4	5.1	......	10.1
Butter	.05	......	20	......	....	......	1.9	......	18.7	......	7.7
Milk	.46	7	8	10	....	......	16.4	8.4	7.7	2.9	9.5
Total animal food	1.07	34	92	12	1,045	8	38.0	41.9	84.5	3.4	53.2
Cereals, sugar, etc	1.13	41	16	302	....	......	40.4	49.9	14.9	85.0	32.0
Vegetables	.61	6	1	41	....	......	21.6	8.2	.6	11.6	14.8
Total vegetable food	1.74	47	17	343	1,755	7	62.0	58.1	15.5	96.6	46.8
Total food purchased	2.81	81	109	355	2,800	15	100.0	100.0	100.0	100.0	100.0
Waste	......	1	......	4	20	(*a*)	......	.8	.1	1.0	......
Total food eaten	......	80	109	351	2,780	15	......	99.2	99.9	99.0	......

a Estimated value of waste less than 0.5 cent.

Discussion of results.—The total cost of the food, exclusive of beverages and condiments, for the family for ten days was $7.63, or about $23 per month, and the rent $13 per month. The income was about $64 per month, so that after paying for food and rent $28 remained for the incidental expenses of a family of six persons, four of them adults. The animal food cost 8 cents (53 per cent of the total cost of the food) and the vegetable food 7 cents (47 per cent of the whole) per man per day. The cost of the day's food would be small enough if it contained the necessary nutriment for a man at work. It was deficient in protein and fuel value. Increasing the protein 50 per cent would, of course, increase the cost of the dietary accordingly, if the same kinds of food were used. Over one-fourth of the cost of the food was paid for bread and buns. The bread at a little over 3 cents a pound was a far more economical food than the buns at about 6 cents a pound. The comparative economy of the foods used by this family is pointed out in the following table, which gives the cost per pound of the food materials and the weights of nutrients that 10 cents would buy at the prices paid by this family.

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[1] For detailed data of this study see Appendix, p. 88.

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 51.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
Beef:	*Cents.*	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Round	11.8	13.5	68	48	....	725
Shank	7.6	21.0	54	32	....	520
Liver	8.0	20.0	122	31	10	830
Shoulder, corned	9.7	16.5	73	47	....	735
Pork:						
Bacon	11.0	14.5	38	255	....	2,525
Salt, fat	7.0	23.0	12	564	....	5.295
Clams	10.0	16.0	30	2	19	220
Eggs	11.4	14.0	52	38	....	570
Milk	3.0	53.5	50	60	76	1,075
Bread	3.1	52.0	140	18	777	3,925
Buns	5.8	27.5	62	63	404	2,495
Beans	10.0	16.0	72	8	305	1,620
Cabbage	1.9	....	42	8	115	720
Green peas, shelled	20.0	8.0	10	1	36	200
Potatoes	2.5	....	32	1	272	1,255
Canned tomatoes	3.4	47.5	16	3	54	315

Besides the foods mentioned in the above table, this family also used, to a greater or less extent, butter, rice, sugar, onions, and soup greens.

At the prices paid, bread and liver were the two cheapest sources of protein. The lima beans cost too much. Beans at ordinary prices are a very cheap source of protein. (See dietary No. 47, p. 32.) The eggs were also too high priced to be an economical food, and should have been cheaper at this time of year (June). Green shelled peas were the most expensive vegetable food used, and clams the most expensive animal food.

The food eaten per man per day contained only 80 grams of protein and had a fuel value of less than 2,800 calories. A man at moderate work should have 100 to 125 grams of protein and enough of fuel constituents to furnish a fuel value of 3,000 or 3,500 calories. The nutritive ratio is 1:7.4.

Suggestions for changes and improvements.—Relatively more protein than fuel ingredients of food is necessary to make the day's food what it should be. The use of more bread and less buns, more beans and less potatoes, more of the leaner meats and less fat pork, would bring about the desired changes without much additional cost.

DIETARY STUDY OF A HOUSEKEEPER'S (WIDOW'S) FAMILY (No. 52.)

This study was made during nine days in the latter part of June. The family consisted of the mother, a son 6 years old, and two daughters, aged 8 and 3. The mother was housekeeper in two tenement houses. For this she got two rooms on the ground floor in the rear of one of the houses rent free. The rent was about $8 per month. Her other income was from an occasional day's work.

The family lived very poorly, at times on much less than the amounts given in the dietary. The air in the rooms was foul, there being something like eight or ten closets in the yard into which the rooms opened. All the family had poor health, although no one was sick at the time the dietary study was made.

No table was set; the teapot was always on the stove and the bread on the table. The mother worked hard and kept up appearances, sending the children, neatly dressed, to day school and Sunday school. "There was no waste, not so much as one crumb."

The results of the study.[1]—The results of this study are briefly summarized in the following table:

Table 12.—*Weights per man per day and percentages of food materials purchased and eaten in dietary study No. 52.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.11	8	4	......	....	......	3.4	8.9	4.2	......	6.8
Pork, lard, etc	.22	14	28	......	....	......	6.8	15.0	26.8	......	9.0
Eggs	.17	10	7	......	....	......	5.2	10.9	7.0	......	9.6
Butter	.09	......	33	......	....	......	2.7	......	32.2	......	10.1
Milk	.25	4	5	6	....	......	7.7	4.0	4.4	1.1	2.7
Condensed milk	.15	6	5	35	....	......	4.6	6.1	4.7	7.0	8.2
Total animal food	.99	42	82	41	1,105	8	30.4	44.9	79.3	8.1	46.4
Cereals, sugar, etc	1.29	43	21	391	....	......	39.2	45.8	20.0	76.7	38.5
Vegetables	.95	8	1	64	....	......	28.9	8.8	.6	12.6	11.8
Fruits	.05	......	......	13	....	......	1.5	.5	.1	2.6	3.3
Total vegetable food	2.29	51	22	468	2,330	10	69.6	55.1	20.7	91.9	53.6
Total food purchased and eaten *a*	**3.28**	**93**	**104**	**509**	**3,435**	**18**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

a There was no waste whatever in this dietary.

Discussion of results.—The cost of the food for this family for nine days was $3.66, or about $12 per month. The cost per man per day for animal food was 8 cents (46 per cent of the whole). The cost is not excessive, and yet much better food should have been purchased for the same amount. One-tenth of the cost of the total expenditure was for butter and one-twelfth for sugar. Since the fuel value of the dietary was relatively too high, part of this money would have been better expended for foods containing an abundance of protein.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

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[1] For detailed data of this study see Appendix, p. 90.

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 52.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
Beef:	*Cents.*	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Round	13. 3	12. 0	61	43	....	650
Soup meat	10. 0	16. 0	56	33	....	535
Pork chops	7. 0	23. 0	92	168	....	1, 940
Eggs	10. 3	15. 5	58	42	....	630
Milk	2. 0	80. 0	75	91	113	1, 615
Condensed milk	10. 0	16. 0	37	32	237	1, 420
Oatmeal	5. 0	32. 0	153	65	605	3, 710
Bread	4. 6	35. 0	94	12	522	2, 635
Buns	5. 7	28. 0	63	64	410	2, 535
Crackers	10. 0	16. 0	46	43	320	1, 900
Potatoes	1. 8	....	53	3	459	2, 125
Tomatoes, canned	4. 0	40. 0	14	2	45	260
Dried prunes	11. 8	13. 5	7	3	223	970

In addition to the foods enumerated above, this family also used beef liver, bacon, butter, prepared flour, rice, rolls, and sugar.

Oatmeal was the cheapest food the family purchased, both as a source of protein and of potential energy. The animal food for the family for nine days cost $1.70. It contained 834 grams of protein and had a fuel value of 22,000 calories. Fifty-five cents' worth of oat flakes would have furnished the same quantity of protein and 21,000 calories of potential energy. Next to oatmeal, bread and pork chops were the cheapest sources of protein. The bread, however, at 4½ cents per pound cost too much. Equally good bread could have been bought for 3 cents a pound. Crackers at 10 cents a pound were an expensive food. The soup meat at 10 cents per pound cost three or four times as much as it should. Eggs and round steak were about equally economical. The condensed milk was a much more expensive source of protein than whole milk.

The relative economy of butter as compared with other foods is forcibly illustrated when it is considered that if the 37 cents here paid for butter, furnishing no protein and yielding energy equivalent to but 6,200 calories, had been expended for bread the family would have obtained 340 grams of protein and the fuel value would have amounted to 7,200 calories, while the same amount spent for oatmeal would have yielded 567 grams of protein and the fuel value would have reached 13,700 calories. This, of course, does not mean that the poor should go without butter, but simply that inasmuch as butter is an expensive food its use should be limited.

As compared with ordinary standards, the dietary contained too little protein. The nutritive ratio is 1:8, the widest of any of the dietaries studied in New York City. This was occasioned chiefly by the large amounts of butter and sugar referred to above.

Suggestions for changes and improvements.—The protein could be increased by using more of such foods as the leaner meats, oatmeal, peas, and beans. The fuel value could be decreased by using less butter and sugar. Twenty of the 37 cents paid for butter, if expended for bread, would have furnished nearly as much fuel value as the butter and about 10 grams of protein per man per day in addition.

The cost of the day's food could be very materially reduced by buying cheap cuts of meat at more reasonable prices, by using less butter and more bread, less condensed milk and more whole milk, and less of buns and crackers and more oatmeal; in other words, by the purchase of foods which contain the most nutriment at the least cost.

DIETARY STUDY OF A LABORER'S FAMILY (No. 96).

This study was made during the last ten days of August. The family was Irish-American, and consisted of the father, mother, three sons aged 20, 14, and 11 years, and a daughter 5 years old. The oldest son worked in a printing office, and the 14-year-old son sold papers. The man earned $20 per week when he had work, and the oldest son $5, of which he paid $4 to his parents. The second son earned about $1 a week.

The family occupied four rooms, one lighted from the outside, two opening on an air shaft, and one with a transom. There were set tubs and sink, but no bath. The closets were on the first floor. The woman did the marketing. The family all seemed to be poorly nourished. The food was bought two or three times a day. None of the family were in very good health. The mother was a fairly good cook, but had no management.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 13.—*Weights per man per day and percentages of food materials purchased in dietary study No. 96.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.57	42	40	......	....	......	13.4	30.1	33.2	......	30.0
Pork, lard, etc	.25	17	35	......	....	......	5.9	12.2	29.1	......	10.8
Poultry	.12	8	1	......	....	......	2.8	5.8	.5	......	4.2
Fish, etc	.33	13	1	2	....	......	7.8	9.2	.6	0.6	8.9
Eggs	.01	1	......	......	....	......	.3	.5	.4	......	.5
Butter	.05	......	17	......	....	......	1.1	......	14.2	......	4.7
Milk	.52	8	9	12	....	......	12.3	5.6	7.9	3.4	7.5
Condensed milk	.01	......	......	2	....	......	.2	.2	.3	.6	.4
Total animal food	1.86	89	103	16	1,385	15	43.8	63.6	86.2	4.6	67.0
Cereals, sugar, etc	1.06	42	15	264	....	......	25.1	30.3	12.5	76.6	19.8
Vegetables	1.32	8	1	65	....	......	31.1	6.1	1.3	18.8	13.2
Total vegetable food	2.38	50	16	329	1,705	8	56.2	36.4	13.8	95.4	33.0
Total food purchased [a]	**4.24**	**139**	**119**	**345**	**3,090**	**23**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

[a] On account of the heat the waste was not saved.

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[1] For detailed data of this study see Appendix, p. 91.

Discussion of results.—The total cost of the food, exclusive of beverages and condiments, for the ten days was $10.08, or at the rate of about $30 per month. The rent was $12 per month. The total income of the family was about $75 a month. Deducting the cost of rent and food, there remained about $33 per month for all the incidental expenses for a family of six persons, three of whom were of school age. The oldest boy kept $4 of this sum for himself. The animal food cost 15 cents (67 per cent of the total cost of the food) and the vegetable food 8 cents (33 per cent) per man per day. This cost is no greater, considering the nutrients obtained, than that of the other New York dietaries. It is greater, however, than people in their circumstances should pay. So far as kinds and amounts of food are concerned this family lived well. If the food had been properly prepared and served they would have lived luxuriously.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the price paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 96.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
Beef:	*Cents.*	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Chuck	11.0	14.5	64	42	....	655
Sirloin steak	14.5	11.0	50	55	....	715
Round steak	12.3	13.0	68	47	....	715
Mutton:						
Chops	12.8	12.5	47	102	....	1,140
Leg	10.0	16.0	68	68	....	910
Pork:						
Sparerib	8.9	18.0	72	131	....	1,515
Smoked ham	20.0	8.0	30	76	....	830
Boiled ham	10.0	16.0	83	168	....	1,900
Chicken	8.0	20.0	84	7	....	410
Haddock	7.0	23.0	53	1	....	225
Bluefish	6.7	24.0	67	4	....	310
Clam chowder	5.0	32.0	16	7	61	380
Milk	3.3	48.0	45	55	69	980
Bread	4.0	40.5	109	14	606	3,060
Buns	4.1	39.5	90	91	582	3,600
Cake	8.9	18.0	36	42	327	1,880
Green corn	7.4	21.5	10	4	52	290
Potatoes	2.0	....	41	2	347	1,610
Fresh tomatoes	2.0	80.0	18	9	89	520

Other food materials used by this family, but not enumerated in the above table, were salt pork, codfish, eggs, butter, condensed milk, sugar, cabbage, onions, muskmelon, and sweet potatoes.

Both as a source of protein and of energy the bread and buns were the cheapest foods used by this family and the green corn the most expensive. Sparerib, ham, and mutton were the cheapest of the animal foods and the chicken and fish the dearest. The cooked ham at 10 cents a pound was a cheap source of protein and had also a high fuel value. The bread cost 4 cents per pound, but an equally good quality could have been bought for 3 cents a pound or even less.

The food purchased contained per man per day 139 grams of protein and had a fuel value of about 3,100 calories. The day's food contained, therefore, more protein and less energy than the ordinary dietary standards for a man at moderate work. During the hottest part of the year (this dietary study was made in August) it is possible that there is less need for the fuel ingredients of food than in cold weather and the fuel value of the day's food may have been high enough. The food apparently contained more protein than was needed. It is probable that the nutritive ratio (1:4.5) was smaller than demanded for the best nutrition. Reducing the amount of protein or increasing the fuel value would have made the nutritive ratio larger and more nearly in accord with the suggested standards.

Suggestions for changes and improvements.—The reduction of the protein one-fifth would mean that less animal foods need be purchased. In this way, even at prices paid and without interfering very greatly with the kinds of food used, the cost of the day's food could have been reduced to 20 cents per man. Greater care in marketing might have reduced the cost still further.

DIETARY STUDY OF A PORTER'S FAMILY (No. 97).

This study was made during the last ten days of August. The family consisted of the father and mother (both Irish), two sons aged 19 and 10, and a daughter 17 years old. The father was a porter, earning $12 a week, and the eldest boy a printer, earning $6 a week. The daughter earned $8 a week as a book folder.

The rent was $13 per month for four rooms on the third floor, one lighted, two on an air shaft, and one with a transom opening into the hall. There were set tubs and a sink with cold water in the kitchen. The woman was dirty and careless. The food was purchased for cash at small stores two or three times a day.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 14.—*Weights per man per day and percentages of food materials purchased in dietary study No. 97.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.50	31	48	1	....	......	9.8	21.6	33.6	0.3	20.1
Pork, lard, etc	.07	1	9	......	....	......	1,3	.7	6.1	......	1.6
Poultry	.26	17	1	......	....	......	5.1	12.1	.9	......	10.6
Fish, etc	.12	6	1	1	....	......	2.4	4.5	.5	.2	4.1
Eggs	.25	15	11	......	....	......	5.0	10.6	7.7	......	9.2
Butter	.08	......	30	......	....	......	1.6	......	21.3	......	7.0
Cheese	.01	2	2	......	....	......	.3	1.1	1.5	......	1.0
Milk	1.35	20	25	31	....	......	26.7	14.2	17.2	6.9	12.6
Condensed milk	.01	1	......	3	....	......	.3	.4	.3	.7	.4
Total animal food	2.65	93	127	36	1,710	19	52.5	65.2	89.1	8.1	66.6

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[1] For detailed data of this study see Appendix, p. 93.

TABLE 14.—*Weights per man per day and percentages of food materials purchased in dietary study No. 97*—Continued.

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Cereals, sugar, etc	1.07	36	14	339			21.3	25.3	9.5	76.3	21.8
Vegetables	1.30	13	1	67			25.7	9.4	1.4	15.2	11.1
Fruits	.03			2			.5	.1		.4	.5
Total vegetable food	2.40	49	15	408	2,010	9	47.5	34.8	10.9	91.9	33.4
Total food purchased *a*	**5.05**	**142**	**142**	**444**	**3,720**	**28**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

a On account of the heat the waste was not saved.

Discussion of results.—The food, exclusive of beverages and condiments, for the family for ten days cost $10.33, or at the rate of about $31 per month. Rent was $13 per month. The income of the family was $26 a week, or a little more than $110 per month, so that after paying for rent and food, over $60 was left for the incidental expenses of the family of five. The cost of food (28 cents per man per day) was not more than a family with this income could well afford. Nineteen cents per man per day (67 per cent of the total cost of the food) was spent for animal food and 9 cents (33 per cent) for vegetable food.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 97.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Chopped meat	9.7	16.5	93	64		975
Sirloin steak	13.9	11.5	52	57		745
Mutton chops	12.3	13.0	49	107		1,195
Pig's head	6.0	26.5	28	11		215
Chicken	11.4	14.0	58	4		275
Codfish	8.0	20.0	91	3		400
Clams	10.0	16.0	30	1	19	210
Eggs	10.0	16.0	59	43		640
Cheese	20.0	8.0	59	77	5	980
Milk	2.6	61.5	58	70	87	1,245
Oatmeal	5.0	32.0	141	66	616	3,720
Bread	6.2	26.0	70	9	389	1,965
Cake	6.7	24.0	45	55	410	2,375
Cabbage	3.9		21	3	57	350
Green corn	10.7	15.0	7	3	36	205
Potatoes	2.0		41	2	347	1,610
Tomatoes, fresh	2.1	76.0	17	9	84	500

Other food materials used by this family, but not enumerated in the above table, were soup, salt pork, butter, condensed milk, rice, crackers, sugar, beans, beets, onions, soup greens, and peaches.

Oatmeal was the cheapest and green corn the dearest source of protein in this dietary study. Clams, codfish, and chicken were the least economical of the animal foods used. The bread used was very expensive, costing as it did over 6 cents a pound.

The day's food per man was larger than the dietary standards call for and larger than has usually been found in average dietary studies of men at moderate work. The nutritive ratio (1:6.4) is greater than in most of the New York dietaries studied.

Suggestions for changes and improvements.—The dietary would probably be better from a hygienic standpoint if the amount of food was somewhat less. Reducing the protein and fuel value one-fifth would reduce the cost correspondingly even if the same kinds of foods at the same prices were selected. The above table (p. 44) indicates a number of changes which could be made so as to provide equally nutritious food at less cost. A comparison of this table with those in some of the other dietaries shows that some foods were purchased at a needlessly high price.

DIETARY STUDY OF A PRINTER'S FAMILY (No. 106).

This study was made during ten days in the early part of August. The family consisted of the father, mother, two daughters aged 19 and 13 years, and three sons, 15, 9, and 2 years of age. The father (Irish) was strong and healthy, a printer by trade. He drank hard at times, but during the period covered by this study was not drinking. The mother, large and strong, also drank to excess. She, however, denied it persistently. She was acting as tenement housekeeper, and therefore the family did not pay any rent. The older daughter worked in a paper-box factory occasionally, but was idle at the time of the study. The second daughter was a large, well-developed girl. She could not read, and was in the streets all day. The oldest boy sold papers, and gave his mother $3.50 a week. The second son went to school. The family moved very frequently. They usually occupied three rooms, and paid $10 rent. The bedrooms were dark, and there were no tubs, bath, or water in the rooms. There was a very poor class of tenants in the house.

The food was bought a meal at a time, and not well prepared. The table was always set. Not one of the family had decent clothes. Dr. Delaney believes the family to be representative of a very large class.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 15.—*Weights per man per day and percentages of food materials purchased in dietary study No. 106.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.65	44	45				17.3	38.4	36.3		27.3
Pork, lard, etc	.17	10	24				4.5	8.8	19.3		10.3
Eggs	.14	9	6				3.8	7.3	5.0		6.4
Butter	.06		25				1.8		19.9		8.1
Cheese	.02	2	3				.6	2.1	2.6		.9
Milk	.40	6	7	9			10.6	5.2	5.8	2.5	5.1
Condensed milk	.04	2	2	10			1.1	1.3	1.0	2.7	1.3
Total animal food	1.48	73	112	19	1,420	13	39.7	63.1	89.9	5.2	59.4
Cereals, sugar, etc	.91	34	10	270			24.3	28.8	8.2	74.1	23.6
Vegetables	1.06	9	2	60			28.4	7.6	1.4	16.5	14.3
Fruits	.29			15			7.6	.5	.5	4.2	2.7
Total vegetable food	2.26	43	12	345	1,700	9	60.3	36.9	10.1	94.8	40.6
Total food purchased [a]	**3.74**	**116**	**124**	**364**	**3,120**	**22**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

[a] The waste was not saved.

Discussion of results.—The cost of the food for the family for ten days, exclusive of beverages and condiments, was $10.94 or about $33 per month. The rent was paid by the woman's work as housekeeper of the tenement house. The income was about $66 per month, and thus $33 were left after paying for food and rent to spend in other ways. The family was shiftless, and while they bought for cash, the food was purchased in small amounts as needed for each meal and the prices paid were for the most part quite high. The animal food per man per day cost 13 cents (59 per cent of total cost of food) and the vegetable food 9 cents (41 per cent of the whole). About half of the cost of the animal food went for beef and mutton.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy, at the prices paid by this family, are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 106.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Beef:						
Round	12.7	12.5	64	44		670
Sirloin	11.0	14.5	65	72		935
Soup meat	6.0	26.5	93	55		895
Lamb chops	13.3	12.0	50	81		960
Mutton stew meat	6.0	26.5	88	133		1,600

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[1] For detailed data of this study see Appendix, p. 95.

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 106—Continued.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
Pork:	*Cents.*	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Chops	12.3	13.0	52	94	....	1,085
Roast	9.1	17.5	69	126	....	1,455
Ham	20.0	8.0	30	76	....	830
Bacon	21.3	7.5	19	128	....	1,270
Eggs	10.0	16.0	59	43	....	640
Milk	2.9	56.0	52	63	....	800
Rye bread	5.0	32.0	92	6	507	2,510
Rolls	6.8	23.5	67	39	399	2,280
Green corn	6.3	25.5	20	8	101	570
Potatoes	1.8	89.0	46	2	387	1,795
Tomàtoes	2.0	80.0	18	9	88	520
Apples	2.0	80.0	9	9	281	1,275

Besides the food materials enumerated above, the following were used to a greater or less extent: Beef rib, liver, corned beef, butter, cheese, condensed milk, oatmeal, wheat bread, cake, macaroni, sugar, molasses, cocoa, cabbage, cucumbers, soup greens, onions, and peas.

Rye bread at 5 cents per pound, rolls at nearly 7 cents, bacon at 21 cents, ham at 20 cents, and round steak at a higher price than sirloin steak indicate the general carelessness of the family in buying and the high prices paid for food.

These people, so far as can be seen, were living well and eating about the proportions of nutrients called for by the dietary standards for a man at light muscular work.

Suggestions for changes and improvements.—Viewed from the standpoint of nutrients purchased and their cost, the greatest need of this family was more careful buying and a better preparation of the food used. In these particulars their case is like that of the average family of the congested district. The general carelessness of these people is nowhere more plainly shown than in their dietary habits. That this dietary was so near the so-called physiological standard was an accident, and was not due to any care on the part of the purchaser. Although the food furnished sufficient nutriment, it cost more than was absolutely necessary.

DIETARY STUDY OF A TRUCKMAN'S FAMILY (No. 107).

The study was made during ten days in the first part of August. The family was Irish-American, and consisted of the father, the mother, three sons aged 9, 5, and 3 years, and a woman 75 years old. Soon after the study commenced the old woman went to the hospital and the oldest boy to the country. The income of the family was about $9 per week. The mother scrubbed the hallways in the house for the rent of the rooms at the back of the house. The rooms were so dark that the lamp in the kitchen had to be lighted at noon. The family drank tea and coffee. Their food was bought three times a day for cash at small markets, the children often going for groceries. They did not use ice. The table was not properly spread, but this was due to the gloominess of the room. In Dr. Delaney's opinion the woman could have done better if she had had the opportunity. The children while young were always sick. When they were old enough to play in the street they were in better health. The mother's health was not good.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 16.—*Weights per man per day and percentages of food materials purchased in dietary study No. 107.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.67	45	50				15.8	32.9	37.0		20.9
Pork, lard, etc	.06	3	14				1.4	1.9	10.6		2.8
Fish, etc	.11	7	2				2.7	5.2	1.3		5.2
Eggs	.07	4	3				1.6	3.0	2.2		3.1
Butter	.10		39				2.4		28.6		11.1
Cheese	.02	2	3				.4	1.5	1.9		1.4
Milk	.21	3	3	5			4.9	2.3	2.8	0.8	2.6
Condensed milk	.19	7	6	45			4.5	5.2	4.5	7.6	6.7
Total animal food	1.43	71	120	50	1,610	12	33.7	52.0	88.9	8.4	53.8
Cereals, sugar, etc	1.46	50	11	437			34.5	37.1	8.3	73.5	27.9
Vegetables	1.22	14	3	76			28.6	10.1	2.0	12.7	15.1
Fruits	.14	1	1	32			3.2	.8	.8	5.4	3.2
Total vegetable food	2.82	65	15	545	2,640	10	66.3	48.0	11.1	91.6	46.2
Total food purchased [a]	**4.25**	**136**	**135**	**595**	**4,250**	**22**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

[a] The waste was not saved.

Discussion of results.—The total cost of the food, exclusive of condiments, for the family for the ten days was $6.50, or nearly $20 per month. The income was less than $40 a month, therefore the family of seven had about $20 a month for the other necessaries of life. The actual expenditure for food was usually greater than at the time during which this study was made, for the 9-year-old boy and the old lady of 75 were away from home. The animal food purchased cost 12 cents (55 per cent of the total cost of the food) and the vegetable food cost 10 cents (45 per cent of the whole) per man per day. The food cost too much, partly because of injudicious buying and partly because more food was purchased than was actually needed.

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[1] For detailed data of this study see Appendix, p. 97.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 107.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Beef:						
Round	9.7	16.5	86	59	....	900
Corned	6.0	26.5	108	172	....	2,040
Tripe	5.0	32.0	99	11	3	520
Mutton, shoulder	6.0	26.5	102	118	....	1,515
Pork, ham, smoked	11.0	14.5	54	135	....	1,475
Fresh mackerel	10.0	16.0	52	16	....	360
Salt cod	10.0	16.0	73	2	....	320
Eggs	10.0	16.0	60	43	....	645
Milk	2.8	56.5	53	61	80	1,115
Condensed milk	8.0	20.0	47	40	296	1,780
Oatmeal	5.5	29.0	141	66	615	3,715
Rice	4.8	33.5	73	4	748	3,405
Bread, wheat	3.6	44.0	119	15	660	3,335
Soda crackers	8.0	20.0	58	53	399	2,365
Green corn	3.4	46.5	37	15	185	1,050
Potatoes	2.0	....	41	2	347	1,610
Fresh tomatoes	2.0	....	18	9	89	520
Prunes	5.0	32.0	18	6	531	2,305

Other food materials used were lard, sardines, butter, cheese, buns, cookies, sugar, beans, string beans, cabbage, onions, and raisins.

Oatmeal at 5½ cents per pound was the cheapest food used by this family, yet an equally good quality could have been obtained for 3 or 4 cents a pound. White bread was the next cheapest food. The corned beef and shoulder of mutton, at the prices paid, were unusually cheap sources of animal protein. As such meats always contain considerable fat in addition they were cheap animal foods. The salt cod was too expensive. In this particular instance green corn was nearly as cheap as potatoes.

The daily food contained per man 136 grams of protein and had a fuel value of 4,250 calories. The nutritive ratio was 1:6.6. The dietary standard for a man at moderate muscular work calls for 125 grams of protein and a fuel value of 3,500 calories, with a nutritive ratio of 1:5.8. Assuming the standard to be approximately correct and that there was little or no waste, the food this family were using contained 12 per cent more protein and furnished 20 per cent more potential energy (fuel value) than was actually needed.

Suggestions for changes and improvements.—The first change which suggests itself in this dietary is a reduction of the nutrients. In order to do this rightly, there should be relatively greater reduction of the fuel ingredients than of protein. By doing this it would be easy to reduce the cost of the food per man per day to 18 to 20 cents, and by very careful selection perhaps to a still lower amount.

DIETARY STUDY OF A FAMILY OF CARETAKERS (WOMEN) IN A DAY NURSERY (No. 108).

This study was made during ten days early in December. The family consisted of eight women, from 16 to 50 years old. They were of average size, all strong and healthy. They were engaged in caring for the children at the day nursery established in connection with a "mission." There was a daily attendance (Sunday excepted) of some fifty or more children, ranging in age from infants 6 months old to children 4 or 5 years old.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 17.—*Weights per man per day and percentages of food materials purchased and eaten in dietary study No. 108.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.72	51	67	1	....	......	17.2	41.8	42.4	0.1	30.6
Pork, lard, etc	.12	6	26	......	....	......	2.9	5.0	16.0	......	7.0
Poultry	.06	4	......	......	....	......	1.5	3.4	.2	......	4.0
Fish, etc	.06	5	1	......	....	......	1.3	4.2	.8	......	3.0
Eggs	.04	3	2	......	....	......	.9	1.9	1.1	......	3.6
Butter	.10	......	37	......	....	......	2.4	......	23.5	......	13.6
Milk	.76	11	14	17	....	......	18.0	9.3	8.7	4.4	9.9
Total animal food	1.86	80	147	18	1,770	17	44.2	65.6	92.7	4.5	71.7
Cereals, sugar, etc	.91	31	9	280	....	......	21.7	25.8	6.1	71.3	18.8
Vegetables	1.08	10	1	73	....	......	25.9	8.0	.7	18.5	7.6
Fruits	.35	1	1	23	....	......	8.2	.6	.5	5.7	1.9
Total vegetable food	2.34	42	11	376	1,815	6	55.8	34.4	7.3	95.5	28.3
Total food purchased and eaten *a*	**4.20**	**122**	**158**	**394**	3,585	23	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

a There was no waste in this dietary.

Discussion of results.—The animal food per man per day cost 17 cents (72 per cent of the total cost of the food) and the vegetable food cost 6 cents (28 per cent of the whole). Nearly one-third of the total cost of the food was paid for beef and lamb. The expenditure for butter was more than one-eighth the total expenditure for food.

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[1] For detailed data of this study see Appendix, p. 99.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 108.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel values.
Beef:	*Cents.*	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Rib	11.8	13.5	51	80	....	955
Round	12.3	13.0	68	47	....	715
Shank	6.0	26.5	69	40	....	655
Sirloin	11.8	13.5	60	67	....	870
Liver	6.0	26.5	163	41	....	1,050
Corned	10.7	15.0	61	99	....	1,170
Lamb:						
Loin	10.7	15.0	64	103	....	1,220
Shoulder	7.3	22.0	99	168	....	1,970
Pork:						
Loin	11.8	13.5	54	99	....	1,140
Bacon	20.0	8.0	21	140	....	1,390
Chicken	15.2	10.5	45	3	....	210
Eggs	21.3	7.5	28	20	....	300
Milk	3.1	52.5	49	60	75	1,065
Wheat flour	2.2	71.5	229	22	1,513	7,345
Bread	4.6	34.5	93	12	518	2,615
Cake	10.3	15.5	31	36	281	1,615
Potatoes	1.8	....	52	3	444	2,060
Apples	1.0	....	16	16	515	2,325

The following food materials were also used to a greater or less extent: Beef rump, suet, lard, canned herring, boned cod, canned salmon, butter, prepared flour, oatmeal, cookies, pie, sugar, sirup, cabbage, sweet potatoes, tomatoes, and turnips.

The liver which was used was an exceedingly cheap source of animal protein. It is doubtful if 10 cents spent for any other animal material would purchase food containing so large a quantity. For the most part meats were bought at the full market price. Wheat flour was the cheapest food the market afforded. Two dollars and a quarter spent for flour would have purchased the same quantity of nutrients as was obtained in the meats which cost nearly $11.

The food actually consumed per day furnished 98 grams of protein, and had a fuel value of 2,870 calories. The standard for a woman at moderate work calls for 100 grams of protein and a fuel value of 2,800 calories in one day's food. This is practically identical with the daily ration consumed in this study, being slightly higher than their actual consumption of protein, and lower than the actual fuel value of the food consumed each day. The calculated amounts per man per day are 122 grams of protein, with a fuel value of 3,585 calories, a good allowance for a man at ordinary labor.

TWO DIETARY STUDIES OF A BUILDER'S FAMILY (Nos. 109 and 147).

The first study (No. 109) was made during the last ten days of November, and the second (No. 147) began March 18 and was continued thirty days. The family consisted of the husband and wife. The husband, a Scotchman, was 40 years old, 6 feet 5 inches in height, and weighed 275 pounds. He was a great lover of sports—running, jumping, throwing the hammer, etc.—and a fine athlete in spite of his weight. He was a builder, and it was said that he could easily do the work of any other two men. He was foreman for the company which employed him, and was often in the open air all day. His wife, 34 years of age, was an American. She weighed 180 pounds and was 5 feet 6 inches in height. Both had perfect health.

The family occupied a flat in Harlem, overlooking the Hudson River, which cost $16 per month. It contained 5 rooms and bath and was well lighted. The woman did her own marketing and housekeeping. She was an excellent cook and bought to the very best advantage. "There was no waste whatever, and every particle of food was turned to account." The husband was usually a hearty eater. He carried his lunch to the office. The family had dinner at night. They used tea as a beverage and occasionally coffee, but no beer. The man did not use tobacco.

Results of the studies.[1]—The results of the first study are briefly summarized in the following table:

Table 18.—*Weights per man per day and percentages of food materials purchased in dietary study No. 109.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.43	29	51	......	....	......	6.3	14.1	19.3	......	12.0
Pork, lard, etc	.22	11	47	......	....	......	3.3	5.6	17.7	......	8.9
Poultry	.27	25	27	......	....	......	3.8	12.1	10.4	......	13.1
Fish, etc	.18	16	3	......	....	......	2.7	7.8	1.3	......	5.1
Eggs	.11	7	5	......	....	......	1.6	3.7	2.0	......	5.3
Butter	.19	......	70	......	....	......	2.8	......	26.6	......	12.1
Cheese	.05	9	5	......	....	......	.8	4.6	1.7	......	.7
Milk	1.86	28	34	42	....	......	27.2	13.6	12.8	5.9	13.2
Cream	.07	1	6	2	....	......	1.1	.4	2.3	.2	1.3
Total animal food	3.38	126	248	44	3,005	30	49.6	61.9	94.1	6.1	71.7
Cereals, sugar, etc	1.52	59	13	519	....	......	22.3	28.8	4.9	72.7	15.2
Vegetables	1.40	18	2	102	....	......	20.6	8.7	.6	14.4	6.9
Fruits	.51	1	1	49	....	......	7.5	.6	.4	6.8	6.2
Total vegetable food	3.43	78	16	670	3,215	12	50.4	38.1	5.9	93.9	28.3
Total food purchased *a*	**6.81**	**204**	**264**	**714**	**6,220**	**42**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

a The waste was not saved, but was very small in amount.

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[1] For detailed data of these studies see Appendix, pp. 101, 103.

The results of the second study are briefly shown in the following table:

TABLE 19.—*Weights per man per day and percentages of food materials purchased in dietary study No. 147.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.81	53	63	......	....	......	11.5	28.5	28.7	......	21.6
Pork, lard, etc	.02	......	11	......	....	......	.3	......	4.9	......	.5
Poultry	.05	3	......	......	....	......	.7	1.6	.1	......	2.1
Fish, etc	.16	14	5	......	....	......	2.2	7.2	2.2	0.1	5.1
Eggs	.21	13	9	......	....	......	3.0	6.7	4.1	......	5.3
Butter	.20	......	73	......	....	......	2.8	......	33.4	......	12.3
Milk	1.69	25	31	39	....	......	24.2	13.6	14.1	5.3	13.0
Cream	.11	1	9	2	....	......	1.6	.7	4.3	.3	4.6
Total animal food	3.25	109	201	41	2,485	26	46.3	58.3	91.8	5.7	64.5
Cereals, sugar, etc	1.50	56	15	497	....	......	21.3	29.9	7.0	68.7	16.7
Vegetables	2.03	21	2	144	....	......	28.9	11.2	.8	20.0	13.7
Fruits	.24	1	1	41	....	......	3.5	.6	.4	5.6	5.1
Total vegetable food	3.77	78	18	682	3,285	15	53.7	41.7	8.2	94.3	35.5
Total food purchased *a*	**7.02**	**187**	**219**	**723**	**5,770**	**41**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

a The waste was not saved, but was very small in amount.

Discussion of results.—Averaging these two dietaries, the animal food cost 28 cents a day and the vegetable food 14 cents, making 42 cents per man per day for the food eaten. This great cost is explained by the large amounts of food used and the prices paid "uptown." Milk and butter make up one-fourth of the cost of the food. The other animal foods were chiefly beef, mutton, and poultry.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following tables:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 109.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Beef, top of loin	15.2	10.5	39	128	....	1,350
Lamb:						
Leg	....	....	47	41	....	575
Shoulder	8.9	18.0	71	119	....	1,400
Pork:						
Loin	13.3	12.0	47	86	....	995
Ham	36.0	4.5	19	49	....	535
Salt, fat	16.0	10.0	5	248	....	2,325
Turkey	21.3	7.5	45	49	....	640
Bluefish	18.4	19.0	72	4	....	330
Eggs	17.8	9.0	34	24	....	365
Milk	3.0	53.0	50	60	75	1,070
Barley	6.0	26.5	74	8	617	2,910
Oatmeal	3.9	41.5	184	86	802	4,840
Flour	2.8	56.5	181	17	1,190	5,780
Bread:						
Graham	4.0	40.0	96	20	635	3,185
Wheat	3.9	41.0	111	14	613	3,100
Celery	8.2	19.5	7	1	17	105
Potatoes	1.0	....	80	4	667	2,700
Apples	4.0	....	5	5	165	745

Other food materials used in this dietary were lamb loin, pork chops, suet and lard, canned salmon, butter, cheese, cream, rice, crackers, sugar, tapioca, beans, cabbage, onions, cranberries, and grape jelly.

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 147.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Beef:						
Sirloin steak	16.0	10.0	44	49	....	635
Rib roast	14.5	11.0	42	67	....	795
Shoulder	11.4	14.0	63	38	....	610
Corned	5.7	28.0	114	182	....	2,160
Mutton:						
Shoulder	7.6	21.0	80	93	....	1,195
Leg	17.8	9.0	41	41	....	550
Chicken	18.8	8.5	36	3	....	175
Flounder	10.0	16.0	39	2	....	180
Canned salmon	11.8	13.5	78	41	5	720
Eggs	10.3	15.5	58	42	....	630
Milk	3.1	51.0	48	58	72	1,030
Cream	16.7	9.5	7	49	12	535
Farina	10.0	16.0	50	6	351	1,700
Flour	2.0	79.0	253	25	1,673	8,130
Oatmeal	3.3	48.0	212	100	924	5,585
Bread:						
Wheat (homemade)	3.7	43.0	116	15	646	3,265
Graham	4.4	36.5	88	18	579	2,900
Cake	14.5	11.0	21	25	194	1,120
Potatoes	1.0	....	79	4	673	3,120
Rhubarb	9.4	17.0	2	3	14	95
Bananas	7.6	21.0	5	3	92	425
Oranges	8.9	18.0	3	2	39	190

In addition to the above-mentioned food materials this family made use of more or less soup meat, lard, salt cod, butter, barley, corn meal, rice, rolls, crackers, sugar, tapioca, canned Lima beans, cabbage, leeks and onions, lettuce, canned and dried peas, tomatoes, grape jelly, lemons, pickled pears, dried prunes, and strawberry preserves.

The average of these two studies, calculated per man per day, are compared with the standards in the following table:

	Protein.	Fuel value.	Nutritive ratio.
	Grams.	*Calories.*	
Standard for man with moderate muscular work	125	3,500	1:5.8
Standard for man with hard muscular work	150	4,500	1:6.3
Dietary of this family (average of two studies)	195	5,995	1:6.5

This man weighed 275 pounds, but his weight was not due to fat. He was large and muscular, and his strength and activity were great. He could run up a ladder as fast as any of the men who worked under him, and in lifting he could easily do the work of two. His wife was large-framed, strong, and active. These facts are mentioned again to point out that it is not at all surprising that the dietary of these two persons should far exceed the demands suggested by any ordinary standards. The combined weight of these two active people was 440 pounds or about that of three ordinary persons. Taking into account the active habit and the work performed by the man, one would naturally have expected that the so-called dietary standard would be much too small. The food eaten is not excessive when these facts are considered. It is a large dietary, but it is the dietary of unusually large and active people.

DIETARY STUDY OF A SALESMAN'S FAMILY (No. 110).

The study was made during ten days in the latter part of October. The family consisted of the husband (Irish), 76 years old; the wife (Scotch), 43 years old, and her two daughters by a former marriage, aged 16 and 12 years. The husband was a small, wiry man, weighing about 125 pounds, quarrelsome, and addicted to drink. He worked in a store near by and earned $12 a week. He bought his noon lunch instead of going home for it. The mother was neat and thrifty, a good worker, and a good buyer. The oldest daughter worked in a paper-box factory and earned about $5 a week. She gave her earnings to her mother.

The house in which the family lived was at one time a "brownstone front." The halls were wide and the rooms high. The parlor floor rented for $18 per month; the top floor, occupied by this family, for $15. There were four rooms on this floor, one of which was rented to a lodger, who paid $6 a month for it. The woman acted as housekeeper and received $5 per month for this service.

The house was kept very neat and bright and the table was always neatly set. The kitchen windows overlooked the East River. The family were all well dressed. The clothing was often mended, but altogether they seemed very prosperous.

Flour was bought by the barrel; other foods once a day. The bread was made at home, but in warm weather was sent to a bakery, where it was baked for a cent a loaf.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 20.—*Weights per man per day and percentages of food materials purchased and eaten in dietary study No. 110.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.12	10	4	......	....	......	3.9	12.3	3.4	0.1	5.3
Pork, lard, etc	.34	20	56	......	....	......	11.2	25.8	44.4	......	26.7
Eggs	.08	5	3	......	....	......	2.6	6.1	2.8	......	6.1
Butter	.11	......	42	......	....	......	3.7	......	33.6	......	17.9
Milk	.87	13	16	20	....	......	28.2	16.5	12.6	5.6	13.1
Condensed milk	.04	1	1	8	....	......	1.1	1.6	.9	2.4	1.8
Total animal food	1.56	49	122	28	1,450	11	50.7	62.3	97.7	8.1	70.9

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[1] For detailed data of this study see Appendix, p. 105.

TABLE 20.—*Weights per man per day and percentages of food materials purchased and eaten in dietary study No. 110*—Continued.

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Cereals, sugar, etc	0.69	23	2	261			22.4	28.7	1.7	75.1	15.3
Vegetables	.75	7	1	48			24.5	8.6	.5	13.8	10.1
Fruits	.07			10			2.4	.4	.1	3.0	3.7
Total vegetable food	1.51	30	3	319	1,460	5	49.3	37.7	2.3	91.9	29.1
Total food purchased and eaten[a]	**3.07**	**79**	**125**	**347**	**2,910**	**16**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

[a] There was no waste in this dietary.

Discussion of results.—The total cost of the food, exclusive of condiments and beverages for the family for the ten days of the study, was $4.57, or about $14 per month. The rent, after deducting $6 per month from the lodger, was $9 per month. The income was about $85 per month, so that after paying for food and rent the family of four had about $57 a month remaining. The cost of the animal food consumed per man per day was 11 cents (71 per cent of the total) and of the vegetable food 5 cents (29 per cent of the total). The cost of the food was small, but the diet was deficient in protein. The family were, so far as they knew, careful in the purchase and use of the food. Their home-made bread was excellent and was obtained at a lower price and of better quality than would otherwise have been possible.

This dietary is an illustration of what can be done by nearly every family if those upon whom the task of buying and preparing food devolves are willing to take the necessary trouble. If they do not already possess the necessary knowledge, they must be taught as the first step toward a reform.

The following table gives the actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 110.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Beef liver	7.0	23.0	140	36	11	955
Veal breast	6.0	26.5	118	47		920
Pork chops	11.8	13.5	53	97		1,120
Ham	11.8	13.5	50	126		1,375
Bacon	13.9	11.5	30	201		1,990
Eggs	12.3	13.0	49	36		535
Milk	2.4	67.0	63	76	95	1,355
Condensed milk	8.0	20.0	46	40	298	1,780
Flour	2.1	76.5	245	24	1,618	7,860
Potatoes	2.0		40	2	346	1,600
Prunes	13.3	12.0	7	2	195	845

Other food materials used by this family, but not enumerated in the above table, were bologna sausage, butter, rice, sugar, cabbage, onions, and apples.

The nutritive ratio is 1:8, and is wider than in any other of the series of New York dietaries. The ordinary standards for a man with little muscular work call for 100 grams of protein and 2,700 calories. Compared with the standard this dietary was deficient in protein.

Suggestions for changes and improvements.—Probably this family would be better nourished if the quantity of protein consumed were increased from 79 to about 100 grams per man per day. This would necessitate some changes in the proportions of the different foods used, and would, unless considerable care was taken, increase the cost or preclude the use of some kinds of food which many families are accustomed to regard as necessities. For instance, in this dietary, if 75 cents of the $1.20 spent for eggs and butter had been spent for liver and pork chops or ham the needed protein would have been obtained without extra cost, and at the same time the fuel value of the food would not have been diminished.

DIETARY STUDY OF A TIN ROOFER'S FAMILY (No. 111).

This study was made during ten days in the latter part of October and first part of November. The family consisted of the father, mother, one daughter of 6, two boys 1 and 4 years old, a woman 60 years old, and one man (a boarder) about 30.

The income was uncertain. The man usually had work four or five days a week. They paid $18 per month rent for four rooms, two of which rented for $1.50 each per week. The boarder paid $3.50 per week for his meals. The family was in good health. Food was purchased by the day for cash at small markets. The children drank tea, coffee, and milk.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 21.—*Weights per man per day and percentages of food materials purchased in dietary study No. 111.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.14	9	6	......	....	......	5.1	9.2	4.7	......	7.7
Pork, lard, etc	.43	26	70	......	....	......	15.5	26.3	56.1	......	27.8
Poultry	.08	8	1	......	....	......	2.9	8.4	.5	......	7.0
Fish, etc	.11	4	......	......	....	......	4.1	3.7	.1	......	4.9
Eggs	.07	5	3	......	....	......	2.5	4.7	2.7	......	6.1
Butter	.07	......	25	......	....	......	2.4	......	20.2	......	10.1
Cheese	.04	4	6	......	....	......	1.4	4.5	4.7	.1	3.0
Milk	.26	4	5	6	....	......	9.4	3.9	3.8	1.8	3.5
Condensed milk	.06	2	2	15	....	......	2.2	2.3	1.6	4.5	2.7
Total animal food	1.26	62	118	21	1,440	15	45.5	63.0	94.4	6.4	72.8

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[1] For detailed date of this study see Appendix, p. 107.

TABLE 21.—*Weights per man per day and percentages of food materials purchased in dietary study No. 111*—Continued.

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Cereals, sugar, etc	0.91	32	6	269	....	......	33.1	31.9	5.1	82.2	19.9
Vegetables	.59	5	1	37	....	......	21.4	5.1	.5	11.4	7.3
Total vegetable food	1.50	37	7	306	1,470	05	54.5	37.0	5.6	93.6	27.2
Total food purchased *a*	**2.76**	**99**	**125**	**327**	**2,910**	**20**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

a The waste was not collected in this dietary.

Discussion of results.—The animal food per man per day cost 15 cents (27 per cent of the whole). One-tenth of the total cost of the food was expended for butter and more than one-fourth for pork, which was the principal kind of meat used by the family. While the cost of the food was not particularly great, it could have been reduced 10 to 30 per cent by more careful buying, without interfering in any way with the quantities of food or the amounts of nutrients.

The actual cost per pound of the food materials and amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 111.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Beef:						
Porter-house steak	15.2	10.5	48	53	....	690
Round steak	15.2	10.5	55	38	....	580
Tripe	6.0	26.5	82	9	2	430
Pork:						
Fresh ham	11.0	14.5	56	142	....	1,550
Smoked ham	12.8	12.5	47	117	....	1,280
Chicken	11.8	13.5	59	5	....	290
Hake	8.6	18.5	38	2	....	175
Eggs	17.8	9.0	38	27	....	405
Cheese	16.0	10.0	74	97	7	1,235
Milk	2.7	59.0	55	67	83	1,190
Condensed milk	8.9	18.0	41	36	264	1,585
Bread	4.0	40.0	108	14	599	3,030
Cake	10.3	15.5	27	42	307	1,760
Cabbage	1.7	....	38	7	104	645
Parsnips	2.9	....	20	8	200	975
Potatoes	1.5	....	53	3	451	2.095

Other food materials used by this family, but not enumerated in the above table, were salt pork, sausage, lard, butter, barley, flour, oatmeal, crackers, pie, sugar, carrots, onions, parsley, and celery.

The bread cost 4 cents a pound, but at this price it was the cheapest food used by the family. The fish and chicken used were expensive sources of protein. The food contained practically the quantity of protein which the standard suggests for a man without muscular work and the fuel value for a man at moderate work. The members of the family performed considerable work, and the food probably contained too little protein for their best nourishment.

Suggestions for changes and improvements.—The great need here, as in so many other families whose dietaries have been studied, was greater attention to the purchase and preparation of the food. Wise selection and careful attention to price of the food materials and of the nutriment they contain are needed, as well as improvement in the cooking and serving of the food.

DIETARY STUDY OF A TIN ROOFER'S FAMILY (No. 112).

This study was made during eleven days in the middle of November. The family consisted of the father (Irish), three daughters aged 23, 19, and 18, a son aged 18, a servant aged 52, and three boarders (men), two 25 to 30 years old and one 60 years old.

The father earned $15 per week; the son worked in a stable and paid $3 a week for his board, and each of the three boarders, the two younger of whom also worked in a stable, paid $5 a week for board and lodging. The old man lived on a pension. The oldest girl was an invalid, and the mother was at the hospital during the study. The two younger girls were usually at work. The family paid $18 per month rent for five rooms. Dr. Delaney considers this a typical Irish-American family.

Food was bought by the day for cash at the small markets. There was absolutely no waste, as the servant ate everything which was left. The family all dressed well and seemed to be in comfortable circumstances.

The results of the study.[1]—The results of this study are briefly summarized in the following table:

TABLE 22.—*Weights per man per day and percentages of food materials purchased and eaten in dietary study No. 112.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.36	25	26	......	....	......	14.2	29.8	22.7	......	22.5
Pork, lard, etc	.32	20	46	......	....	......	12.5	23.3	40.7	......	25.7
Fish, etc	.04	2	......	......	....	......	1.5	2.6	......	......	2.4
Eggs	.08	5	4	......	....	......	3.1	6.2	3.3	......	8.5
Butter	.07	......	28	......	....	......	3.0	......	24.8	......	12.3
Milk	.34	5	6	8	....	......	13.3	6.0	5.4	3.4	6.0
Total animal food	1.21	57	110	8	1,290	12	47.6	67.9	96.9	3.4	77.4
Cereals, sugar, etc	.57	20	3	169	....	......	22.7	23.4	2.5	74.4	14.0
Vegetables	.75	7	1	50	....	......	29.7	8.7	.6	22.2	8.6
Total vegetable food	1.32	27	4	219	1,045	4	52.4	32.1	3.1	96.6	22.6
Total food purchased and eaten *a*	**2.53**	**84**	**114**	**227**	**2,335**	**16**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

a There was no waste in this dietary.

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[1] For detailed study of this data see Appendix, p. 109.

Discussion of results.—The animal food per man per day cost 12 cents (17 per cent of the total cost of the food) and the vegetable food cost 4 cents (23 per cent of the total). About one-eighth of the total expenditure was for butter and one-half for pork and beef. The cost of the food per man per day was not particularly high, although the dietary was not sufficient for a man at light muscular work. The proper nutrients could have been bought in other forms at a lower price, although the prices paid were not excessive.

The actual cost per pound of the food materials and the amount of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 112.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
Beef:	*Cents.*	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Neck	6.0	26.5	105	90	....	1,270
Rib	....	....	65	104	....	1,235
Round steak	12.3	13.0	67	47	....	710
Cornedrump	....	....	60	92	....	1,100
Tripe	5.5	29.0	88	10	2	460
Pork:						
Chops	....	....	46	83	....	960
Smoked ham	12.3	13.0	50	124	....	1,360
Cod:						
Fresh	10.0	16.0	48	1	....	205
Salt	10.0	16.0	73	1	....	310
Eggs	15.2	10.5	39	28	....	420
Milk	2.8	58.0	54	65	82	1,160
Oatmeal	9.4	17.0	74	35	324	1,955
Bread:						
Rye	3.3	48.0	138	9	762	3,775
Wheat	3.1	51.0	138	17	765	3,860
Cabbage	1.4	....	63	12	173	1,080
Canned corn	8.0	20.0	16	8	110	590
Canned peas	8.9	18.0	18	1	49	285
Potatoes	1.1	....	74	4	633	2,935

Besides the above-mentioned food materials, this family also used butter and sugar and small quantities of suet, rice, and onions.

The rye and wheat breads were the cheapest foods the family used. The beef neck was the cheapest source of animal protein and eggs the most expensive. The oatmeal, at over 9 cents a pound, cost too much. It can be bought for 4 to 5 cents.

The standard (p. 7) calls for 112 grams of protein and 3,000 calories of potential energy per day for a man with light muscular exercise. Probably this family would have been better nourished if the food eaten had furnished a third more nutrients. Such an increase would have raised the cost of the day's food accordingly, provided the same articles of food were selected. Greater care in selection and close attention to cost and food values might, to a greater or less extent, counterbalance this.

DIETARY STUDIES OF CHILDREN AT A DAY NURSERY (Nos. 117, 118, and 119).

Dietary No. 117 was that of children under 1 year of age. The children under 10 months old were fed on milk and rice water exclusively. Those over 10 months old had in addition a little bread once a day. The rice water was made by steaming 3 ounces of rice in 1 quart of water for six hours.

Dietary No. 118 was that of children between 1 and 2 years of age.

Dietary No. 119 was that of children between 2 and 5 years of age. All three dietary studies were made during ten days in the first half of December and it was estimated that in every case fully two-thirds of the daily food was taken at the nursery.

The results of the studies.—It is not practicable to tabulate the results of dietaries Nos. 117 and 118, as has been done for the other studies. The full data will be found in Appendix, pp. 110–112. The results of the study of dietary No. 119, calculated per child per day, are briefly summarized in the following table:

Table 23.—*Weights per child per day and percentages of food materials purchased and eaten in dietary study No 119.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.06	4	4	......	....	......	4.6	11.8	19.8	......	10.2
Milk	.67	10	12	15	....	......	51.2	34.1	60.3	12.7	49.3
Total animal food	.73	14	16	15	265	2	55.8	45.9	80.1	12.7	59.5
Cereals, sugar, etc	.31	11	4	80	....	......	23.5	36.4	17.1	66.1	25.3
Vegetables	.17	5	......	20	....	......	13.4	17.1	1.9	16.7	10.0
Fruits	.10	......	......	5	....	......	7.3	.6	.9	4.5	5.2
Total vegetable food	.58	16	4	105	535	2	44.2	54.1	19.9	87.3	40.5
Total food purchased and eaten *a*	**1.31**	**30**	**20**	**120**	**800**	**4**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

a There was practically no waste.

Discussion of results.—The results of these dietary studies, briefly stated, are as follows:

Estimated daily food consumption.

	Protein.	Fuel value.
Food eaten per child per day:	*Grams.*	*Calories.*
Age 6 to 12 months	25	600
Age 1 to 2 years	29	830
Age 2 to 5 years	30	800
Equivalent per man per day:		
Age 6 to 12 months	83	2,000
Age 1 to 2 years	97	2,770
Age 2 to 5 years	75	2,000

As the amount of food eaten outside of the nursery is a matter of great uncertainty, these results are much less valuable than they would otherwise be. No definite conclusions can be drawn from them to show whether the children received the proper nourishment which they required. Assuming these figures to be at all accurate, it would seem as though the children were for the most part underfed. The appearance of the children did not, however, warrant this assumption. Those who had been regularly at the nursery for some time were apparently all well nourished.

DIETARY STUDY OF A FAMILY AT A MISSION (No. 122).

This study was made during eleven days in the middle of January. The family consisted of three women and one man who took his dinners and supper with this family.

Two of the women were large, active, and vigorous, and in excellent health. One of them weighed about 200 and the other about 175 pounds. Their weight was not due to excessive fat but to solid muscle on large, well-knit frames. In their work among the poor on the East Side, long walks and climbing long flights of stairs gave ample exercise. The other woman was the servant who did the work of this house of ten rooms.

The results of the study[1].—The results of this study are briefly summarized in the following table:

TABLE 24.—*Weights per man per day and percentages of food materials purchased and eaten in dietary study No. 122.*

Kind of food material.	Weight of food and nutrients (per man per day).				Fuel value.	Cost.	Percentages of total food.				
	Total food material.	Protein.	Fat.	Carbohydrates.			Total food material.	Protein.	Fat.	Carbohydrates.	Cost.
	Lbs.	*Gms.*	*Gms.*	*Gms.*	*Calories.*	*Cents.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Beef, veal, and mutton	0.73	57	77	......	....	......	13.1	39.8	37.4	......	27.6
Pork, lard, etc	.03	1	7	......	....	......	.5	.8	3.6	......	1.1
Poultry	.08	8	1	......	....	......	1.3	5.4	.3	......	4.2
Fish, etc	.03	2	2	......	....	......	.5	1.3	.9	......	1.4
Eggs	.03	2	1	......	....	......	.6	1.4	.7	......	2.1
Butter	.20	......	74	......	....	......	3.6	......	36.3	......	16.5
Cheese	.01	2	2	......	....	......	2	1.1	1.0	......	1.1
Milk	1.49	22	27	34	....	......	26.6	15.6	13.1	6.2	14.9
Total animal food	2.60	94	191	34	2,425	26	46.4	65.4	93.3	6.2	68.9
Cereals, sugar, etc	1.29	38	12	399	....	......	23.0	27.0	5.6	73.2	18.3
Vegetables	1.11	10	1	76	....	......	19.9	6.7	.6	14.0	8.9
Fruits	.59	1	1	36	....	......	10.7	.9	.5	6.6	3.9
Total vegetable food	2.99	49	14	511	2,300	11	53.6	34.6	6.7	93.8	31.1
Total food purchased and eaten *a*	**5.59**	**143**	**205**	**545**	**4,725**	**37**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

a There was no waste in this dietary.

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[1] For detailed data of this study see Appendix, p. 113.

Discussion of results.—There was no attempt to live economically. The people were working hard in a very wearing occupation—mission work in the slums of New York—and wished to have their table as attractive and good as practicable without being extravagant.

The actual cost per pound of the food materials and the amounts of nutrients which 10 cents would buy at the prices paid by this family are shown in the following table:

Cost per pound of foods and weights of foods and nutrients bought for 10 cents in dietary study No. 122.

Kind of food material.	Cost per pound.	Amounts bought for 10 cents.				
		Total food.	Protein.	Fat.	Carbohydrates.	Fuel value.
	Cents.	*Ounces.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Beef:						
Loin	17.8	9.0	42	46		600
Rib	13.3	12.0	51	81		960
Round	12.3	13.0	67	46		705
Lamb:						
Breast	6.0	26.5	130	160		2,020
Chops	11.0	14.5	65	105		1,245
Bacon	15.2	10.5	28	187		1,855
Chicken	11.0	14.5	49	4		240
Fresh salmon	20.0	8.0	37	34		470
Eggs	24.6	6.5	25	18		270
Milk	3.7	43.5	40	49	61	870
Bread (homemade)	4.7	34.0	91	12	507	2,565
Cake	7.6	21.0	41	48	374	2,150
Canned corn	8.0	20.0	16	7	109	580
Potatoes	1.2		61	3	522	2,420
Canned tomatoes	6.0	26.5	9	2	30	180
Pickles	9.7	16.5	2	2	26	135
Apples	1.5		11	11	351	1,585
Peaches	8.0	20.0	5		72	315

Other food materials used by this family, but not enumerated in the above table, were butter and sugar, and, in small quantities, cheese, barley, corn meal, oatmeal, rice, brown bread, crackers, rolls, tapioca, soup greens, onions, and turnips.

The standard for a man at ordinary muscular work calls for 125 grams of protein, with a fuel value of 3,500 calories, and for a woman eight-tenths of this, or 100 grams of protein and 2,800 calories. Viewed from this standpoint, the daily dietary furnished somewhat more nutriment than was needed. Remembering, however, that these women were large, active people, and that they were engaged in quite hard work, it is fair to assume that they would need as much as the average man. The food actually consumed per person (woman) per day furnished 114 grams of protein, with a fuel value of 3,780 calories, and cost 30 cents. Under the circumstances these figures do not seem excessive. The nutritive ratio (1:7.1) is wider than in most of the New York dietaries here reported.

SUGGESTIONS REGARDING THE IMPROVEMENT OF THE FOOD HABITS OF CITY POOR.

It is impossible to lay down any hard and fast rules which shall govern the purchase of food by a family. This must, to a very great extent, be determined by the different local conditions of supply and demand, by individual peculiarities, and by the different circumstances surrounding the private family life. In many cases the families studied in these dietaries could have made a very decided and important pecuniary saving by purchasing their foods in larger amounts. On the other hand, perishable foods could not be thus purchased unless ice were used, and the expense of the latter would, perhaps, more than offset the saving due to the purchase of larger amounts at a time. Again, it may often occur that the family are too poor to buy except in small quantities unless able to obtain credit, which is usually difficult or impossible. It is frequently the case that the mother's time is so occupied by outside duties that she has little or no opportunity to attend to those of the home, these being slighted almost entirely or devolving upon some younger member of the family. In such cases injudicious buying usually reaches a maximum. The child does not know what to buy and is imposed upon by the merchants. In many of the families studied also there was no attempt made to spread an attractive table. The food was left on the bare table and the different members of the family took hasty meals when it suited their convenience. The harmful influence of such a practice makes itself felt in many ways. One of the most common observations among those who are familiar with the habits of living of the poorer classes of wage workers is to the effect that a not inconsiderable amount of the prevalent intemperance can be traced to poor food and unattractive home tables. Such cases can be cured or remedied only by a complete change in the family customs or by the education of the person who does the marketing and housekeeping, so that more judicious selections of foods will be made and more attractive tables spread.

Throughout all these dietaries there was shown very little comprehension of the actual nutritive value of the food purchased, the selection apparently being made according to some whim of taste, the presence of certain food materials in the market, or because the housekeeper had become accustomed to purchasing certain kinds of foods. The larger number of families spent more than they could really afford for food, and yet frequently received insufficient nourishment.

How these people could have obtained more nutriment for the money expenditure or even for a less expenditure can, in this connection, only be answered in the most general terms. In the first place, the cheaper cuts of meats for stews and "pot roasts" might have replaced almost entirely the more expensive steaks and roasts without impairing the nutritive quality. Then the amount of eggs and butter used might have been reduced to the minimum amount that would give the food relish. Eggs at 16 cents a dozen are rather expensive, and at 25 or 30 cents a dozen should be eliminated from the diet if it is desired to cut off unnecessary expense. The money saved by the purchase of cheaper meats and of less butter and eggs could be profitably expended for flour or other cereals, bread, rice, beans, or potatoes. When, as often happens, the means of a family are so limited as to make it extremely difficult or apparently impossible for them to obtain the proper amount of nourishment the animal foods might well be replaced to a greater or less extent by such vegetable foods. In this way a given sum of money could be made to furnish fully as much protein as by the use of meats, fish, eggs, and the like, and in addition a largely increased fuel value. Not a few people avoid animal food from preference. Many have meat but rarely and yet are well nourished. The animal foods are of unquestionable value, especially as a source of protein, and are very palatable, but nutriment is obtained far more cheaply in the cereals and legumes.

While it is desirable to have proper bulk in the food eaten, such as is given by potatoes and other vegetables, it is doubtful if any great variety of vegetables is necessary, although such food materials undoubtedly add to the palatability and tonic effect of the food. It is probable, however, that potatoes alone or with a very small amount of turnips, onions, or carrots, would be just as nutritious and beneficial in every way as a large and varied use of vegetables and fruits.

In brief the cheaper cuts of beef, beans, peas, oatmeal, flour, or bread can be profitably used as a source of protein, while flour or bread, sugar, rice, corn meal, and oatmeal, potatoes, and the cheaper cuts of pork furnish an economical source of fuel (or energy).

One of the best and surest ways to improve the condition of the poor is to give them practical instruction and object lessons in the preparation of attractive yet simple and cheap foods. Unless it can be demonstrated that the changes proposed will give a more attractive and palatable diet as well as a cheaper and more nutritious one, people of the character of many of those in the dietaries here reported will scarcely trouble to follow any general suggestion that may be made toward the cheapening of their food. Frequently among such people there is not only ignorance of the fundamental principles of economy, but a prejudice against economizing. The women need simple and easily comprehended instruction upon all subjects connected with the kitchen. These subjects should include (1) lessons upon the best and most nutritious food materials and those best adapted in point of cost and ease of preparation to the needs and circumstances of the family, and (2) such instruction as shall enable the housekeeper to prepare simple, wholesome, and palatable dishes from such foods. The importance of setting a neat, attractive table and of having meals at regular hours should also be emphasized. It is along such lines that there seems to be the greatest opportunity of bringing about a permanent and wide-spread improvement in the living habits of the poor of our large cities.

APPENDIX.

The complete data of the studies reported in the previous pages are given in the tables below.

Explanation of tables.—The figures in the first table of each dietary study, giving the actual amounts of food and of nutrients in the food used during the period, are based upon the weights of the food materials as they were purchased and used—that is, they include bone and other refuse, except where specified. The first three columns show the percentages of protein, fat, and carbohydrates used in computing the amounts of those nutrients in the different food materials. In all cases where the composition was not fairly well known from previous analyses, specimens as nearly identical as possible with those eaten were analyzed. The cases in which special analyses were made in connection with these dietaries are indicated in the table by the letter *a* following the name of the material. The weights of the dried table and kitchen wastes and their composition are given in the last line of the table.

The second table for each dietary study gives the quantities estimated per man per day and the percentages of food materials of different classes and of nutrients furnished by each class. The quantities per man per day were found by dividing the weights of the different food materials and nutrients used in the dietary by the number of days for one man, to which the total meals taken were equivalent.

The last table for each dietary study gives the nutrients and potential energy in the food purchased, in the table and kitchen wastes, and in the portion actually eaten. In estimating the fuel values of the nutritive ingredients, the protein and carbohydrates are assumed to contain 4.1 and the fats 9.3 calories of potential energy per gram.

It was not practicable in all cases in the collection of the waste to distinguish between the animal and the vegetable waste. Estimates of more or less accuracy have, however, been made of the amount of nutritive materials which came from the animal and the vegetable foods. As there were practically no carbohydrates in any of the animal foods except milk and cheese, and but little in these, there is probably no great error in assuming that all waste carbohydrates came from the vegetable food materials. It has also been assumed that the vegetable waste would be distributed about equally through all classes of vegetable foods, namely, cereals, vegetables, and fruits. In other words, the amount of vegetable protein and vegetable fat in the waste will bear nearly the same ratio to the total amount of vegetable protein and fat in the food purchased that the carbohydrates of the waste do to the total carbohydrates of the vegetable food. Taking the percentages of the weights of the carbohydrates in the total waste as the measure of the protein and fats in the vegetable wastes, the estimated weights of protein and fat in the latter are readily calculated. Subtracting these values for the vegetable protein and fat wasted from the total amount of these ingredients in the waste gives the estimated amounts of animal protein and fats in the whole waste.

Table 89 summarizes the results of the dietary studies here reported.

DIETARY STUDY OF A MECHANIC'S FAMILY (No. 30.)

The study began April 11, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man (Irish)	30
Woman (English) (30 meals × 0.8 meal of man), equivalent to	24
Girl 11 years old (30 meals × 0.6 meal of man), equivalent to	18
Girl 8 years old (30 meals × 0.5 meal of man), equivalent to	15
Girl 8 months old (30 meals × 0.3 meal of man), equivalent to	9
Total number of meals taken equivalent to	96

Equivalent to 1 man 32 days.

Remarks.—Income, $12 per week. Rent, $12 per month.

TABLE 25.—*Food materials and table and kitchen wastes in dietary study No. 30.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Cocked	27.9	11.0	......	$0.06	285	80	31	......
Round	18.1	12.6	......	.24	710	129	89	......
Suet	4.8	79.9	......	......	155	7	124	......
Brisket, corned (*a*)	14.7	19.4	......	.48	3,375	496	655	......
Total	......	......	......	.78	4,525	712	899	......
Veal, breast (*a*)	15.4	5.5	......	.05	555	85	31	......
Mutton:								
Chuck	11.5	26.7	......	.07	455	52	121	......
Neck (*a*)	8.1	18.1	......	.11	795	64	144	......
Loin	13.2	28.6	......	.72	1,840	243	526	......
Shoulder	13.5	15.6	......	.50	2,040	275	318	......
Total	......	......	......	1.40	5,130	634	1,109	......
Pork:								
Ham (*a*)	17.7	28.6	......	.34	795	141	227	......
Pigs' feet	10.0	9.3	......	.16	1,360	136	126	......
Total	......	......	......	.50	2,155	277	353	......
Poultry, chicken	12.5	10.2	......	.54	1.360	170	139	......
Fish, etc.:								
Cod, fresh	10.6	.2	......	.07	400	42	1	......
Flounder	6.3	.3	......	.14	1,035	65	3	......
Haddock	8.2	.2	......	.17	920	75	2	......
Shad	9.2	4.8	......	.30	1,020	94	49	......
Shad-herring (*a*)	11.7	1.9	......	.10	1,135	133	22	......
Clam chowder (*a*)	2.9	1.1	11.0	......	850	25	9	94
Total	......	......	......	.78	5,360	434	86	94

a Analyzed in connection with this dietary.

TABLE 25.—*Food materials and table and kitchen wastes in dietary study No. 30*—Cont'd.

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD—continued.	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Eggs (14 per cent shell)	14.9	10.6		$0.30	1,125	168	119	
Cheese, Swiss	27.6	34.9	1.3		25	7	9	
Butter (*a*)	1.2	84.4		.30	650	8	546	
Milk	3.3	4.0	5.0	.71	11,590	382	464	580
Condensed milk (*a*)	6.0	9.5	52.1	.16	450	27	43	234
Cost of two lunches				.20				
Total animal food				5.72	32,925	2,904	3,798	908
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Flour, Hecker's self-rising (*a*)	9.4	1.0	76.4	.18	1,615	152	16	1,234
Flour, Pettijohn's prepared (*a*)	9.9	2.0	78.6	.02	125	12	3	98
Bread (*a*)	9.3	.9	51.3	.42	7,545	702	68	3,870
Buns, cinnamon (*a*)	9.4	7.2	59.1	.45	3,855	362	278	2,278
Buns, hot cross	7.9	4.8	49.7	.20	1,475	117	71	733
Crackers, soda	10.3	9.4	70.5		60	6	6	42
Rolls, bread (*a*)	11.9	.4	59.8	.14	1,590	189	6	951
Starch			98.0	.13	215			211
Sugar			100.0	.34	3,260			3,260
Total				1.88	19,740	1,540	448	12,677
Vegetables:								
Asparagus, canned	1.5	.1	2.8	.30	935	14	1	26
Cabbage	1.8	.3	4.9	.17	4,595	83	14	225
Carrots (26.6 per cent refuse)	1.1	.5	9.0	.06	765	8	4	69
Celery	1.4	.1	3.0	.10	400	6		12
Leeks (*a*)	.7	.3	3.5	.05	140	1		5
Onions	1.5	.4	8.9	.07	740	11	3	66
Parsley	1.1	.3	2.7	.02	40			1
Potatoes (19.5 per cent refuse)	2.1	.1	18.0	.43	8,010	168	8	1,442
Radishes (27 per cent refuse)	1.4	.1	6.6	.10	375	5		25
Rhubarb (46 per cent refuse)	.6	.7	3.6	.06	300	2	2	11
Turnips (57 per cent refuse)	1.4	.2	8.7	.01	85	1		7
Total				1.37	16,385	299	32	1,889
Fruits, nuts, etc.:								
Bananas (42 per cent refuse)	1.2	.8	22.9	.55	2,005	24	16	459
Cherry jelly	1.1		77.1	.21	515	6		397
Lemons	.7	.6	5.8	.05	225	2	1	13
Oranges (23 per cent refuse)	.8	.6	9.7	.29	1,295	10	8	126
Raisins	2.5	4.7	74.7	.10	455	11	21	340
Peanuts	17.3	25.9	16.3	.05	455	79	118	74
Total				1.25	4,950	132	164	1,409
Total vegetable food				4.50	41,075	1,971	644	15,975
Total food				10.22	74,000	4,875	4,442	16,883
Table and kitchen waste (*a*)	25.9	53.5	11.4		545	141	292	62
Clear fat		100.0			60		60	
Total					605	141	352	62

a Analyzed in connection with this dietary.

TABLE 26.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 30.*

Kind of food material.	Weights.				Percentages of total food.				Cost.
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	319	45	64	....	13.8	29.4	45.9	....	21.8
Pork, lard, etc	68	9	11	....	2.9	5.7	8.0	....	4.9
Poultry	42	5	4	....	1.8	3.5	3.1	....	5.3
Fish, etc	168	14	3	3	7.3	8.9	1.9	.6	7.6
Eggs	35	5	4	....	1.5	3.5	2.7	....	2.9
Butter	20	....	17	....	.9	.2	12.3	....	2.9
Cheese	1	....	....	....	....	.1	.2	....	2.0
Milk	362	12	15	18	15.7	7.8	10.4	3.4	7.0
Condensed milk	14	1	1	8	.6	.5	1.0	1.4	1.6
Total animal food	1,029	91	119	29	44.5	59.6	85.5	5.4	56.0
Cereals, sugars, starches	617	48	14	396	26.7	31.6	10.1	75.0	18.4
Vegetables	512	9	1	59	22.1	6.1	.7	11.2	13.4
Fruits	155	5	5	44	6.7	2.7	3.7	8.4	12.2
Total vegetable food	1,284	62	20	499	55.5	40.4	14.5	94.6	44.0
Total food purchased	2,313	153	139	528	100.0	100.0	100.0	100.0	100.0

TABLE 27.—*Nutrients and potential energy in food purchased, rejected, and eaten per man per day in dietary study No. 30.*

Kind of food.	Cost.	Weights and fuel value.				Percentages of total food.			
		Protein.	Fat.	Carbohydrates.	Fuel value.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY.									
Food purchased:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Animal	18	91	119	29	1,600	59.6	85.5	5.4	39.0
Vegetable	14	62	20	499	2,485	40.4	14.5	94.6	61.0
Total	32	153	139	528	4,085	100.0	100.0	100.0	100.0
Waste:									
Animal	....	4	11	....	120	2.7	7.9	....	2.9
Vegetable	....	....	....	2	10	.1	....	.3	.2
Total	....	4	11	2	130	2.8	7.9	.3	3.1
Food actually eaten:									
Animal	....	87	108	29	1,480	56.9	77.6	5.4	36.1
Vegetable	....	62	20	497	2,475	40.3	14.5	94.3	60.8
Total	....	149	128	526	3,955	97.2	92.1	99.7	96.9

DIETARY STUDY OF A CARPENTER'S FAMILY (No. 31).

The study began April 15, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man (German) 47 years old	30
Woman (German) (30 meals × 0.8 meal of man), equivalent to	24
Boy 18 years old	29
Girl 12 years old (30 meals × 0.6 meal of man), equivalent to	18
Boy 9 years old (30 meals × 0.5 meal of man), equivalent to	15
Total number of meals taken equivalent to	116

Equivalent to 1 man 39 days.

Remarks.—Income: Man, $10 a week; boy, $5 a week, paid to his parents. Woman was a tenement housekeeper and the rent was $3 per month above her work.

Table 28.—*Food materials and table and kitchen wastes in dietary study No. 31.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Flank	16.5	20.6		$0.20	1,005	166	207	
Round (*a*)	19.4	7.1		.54	3,485	676	247	
Round, no bone	19.7	13.5		1.07	4,310	849	582	
Soup bone	9.1	5.3			115	10	6	
Suet	4.8	79.9			340	16	272	
Frankfort sausages (*a*)	16.5	18.8		.16	470	78	88	
Total				1.97	9,725	1,795	1,402	
Pork chops	14.1	25.6		.65	3,445	486	882	
Cottolene and olive oil (*b*)		100.0		.16	710		710	
Total				.81	4,155	486	1,592	
Eggs (8.4 per cent shell)	14.9	10.6		1.00	4,055	604	430	
Butter (*a*)	1.2	83.9		1.10	1,815	22	1,523	
Milk	3.3	4.0	5.0	1.00	16,735	552	669	837
Total animal food				5.88	36,485	3,459	5,616	837
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Beck's Breakfastina (*a*)	11.4	1.7	75.9	.07	995	113	17	755
Flour, Hecker's (*a*)	11.6	1.0	77.5	.02	285	33	3	221
Flour, wheat	11.3	1.1	74.6	.20	3,575	405	39	2,667
Rice	7.8	.4	79.0	.03	270	21	1	213
Bread, rye (*a*)	10.4	1.2	57.1	.59	9,640	1,002	116	5,504
Bread, white	9.5	1.2	52.8	.02	170	16	2	90
Cake, coffee (*a*)	8.3	6.3	52.4	.30	2.475	205	156	1,297
Sugar, granulated			100.0	.17	2,120			2,120
Total				1.40	19,530	1,795	334	12,867
Vegetables:								
Cabbage, red (34 per cent refuse)	2.1	.4	5.8	.07	410	9	2	24
Carrots	.9	.4	7.2	.04	860	8	3	62
Celery	1.4	.1	3.0	.02	55	1		2
Leeks (*a*)	.7	.3	3.5	.04	270	2	1	9
Lettuce and parsley	1.1	.3	2.7	.08	315	3	1	9
Onions (17 per cent refuse)	1.7	.4	9.9	.02	225	4	1	22
Parsnips	1.3	.5	12.9	.01	85	1		11
Peas, dried	24.1	1.1	61.5	.10	710	171	8	437
Potatoes (21.5 per cent refuse)	2.1	.1	18.0	.69	16.840	354	17	3,031
Sauerkraut (*a*)	1.5	.8	4.4	.20	3,935	59	31	173
Turnips	1.0	.1	6.1	.02	330	3		20
Total				1.29	24,035	615	64	3,800
Fruits, nuts, etc., cherry jelly	1.1		77.1	.21	515	6		397
Total vegetable food				2.90	44,080	2,416	398	17,064
Total food				8.78	80,565	5,875	6,014	17,901
Table and kitchen waste (*a*)	26.1	57.7	8.9		500	131	288	45
Clear fat		100.0			85		85	
Total					585	131	373	45

a Analyzed in connection with this dietary.
b Olive oil, 15 grams.

TABLE 29.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 31.*

Kind of food material.	Weights.				Percentages of total food.				Cost.
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	249	46	36		12.1	30.5	23.3		22.5
Pork, lard, etc	107	12	41		5.1	8.3	26.5		9.2
Eggs	104	16	11		5.0	10.3	7.2		11.4
Butter	47	1	39		2.3	.4	25.3		12.5
Milk	429	14	17	22	20.8	9.4	11.1	4.7	11.4
Total animal food	936	89	144	22	45.3	58.9	93.4	4.7	67.0
Cereals, sugars, starches	501	46	8	330	24.2	30.5	5.5	71.9	15.9
Vegetables	616	16	2	97	29.9	10.5	1.1	21.2	14.7
Fruits	13			10	.6	.1		2.2	2.4
Total vegetable food	1,130	62	10	437	54.7	41.1	6.6	95.3	33.0
Total food	2,066	151	154	459	100.0	100.0	100.0	100.0	100.0

TABLE 30.—*Nutrients and potential energy in food purchased, rejected, and eaten per man per day in dietary study No. 31.*

Kind of food.	Cost.	Weights and fuel value.				Percentages of total food.			
		Protein.	Fat.	Carbohydrates.	Fuel value.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY.									
Food purchased:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Animal	15	89	144	22	1,795	58.9	93.4	4.7	45.5
Vegetable	8	62	10	437	2,140	41.1	6.6	95.3	54.5
Total	23	151	154	459	3,935	100.0	100.0	100.0	100.0
Waste:									
Animal		3	10		105	2.1	6.2		2.6
Vegetable				1	5	.1		.3	.2
Total		3	10	1	110	2.2	6.2	.3	2.8
Food actually eaten:									
Animal		86	134	22	1,690	56.8	87.2	4.7	42.9
Vegetable		62	10	436	2,135	41.0	6.6	95.0	54.3
Total		148	144	458	3,825	97.8	93.8	99.7	97.2

DIETARY STUDY OF A JEWELER'S FAMILY (No. 32).

The study began April 17, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man 46 years old	30
Woman 41 years old (30 meals × 0.8 meal of man), equivalent to	24
Boy 18 years old	30
Boy 16 years old (30 meals × 0.8 meal of man), equivalent to	24
Girl 12 years old (30 meals × 0.6 meal of man), equivalent to	18
Boy 10 years old (30 meals × 0.6 meal of man), equivalent to	18
Boy 8 years old (30 meals × 0.5 meal of man), equivalent to	15
Total number of meals taken equivalent to	159

Equivalent to 1 man 53 days.

Remarks.—Income: Man, $10 a week; boy 18 years old paid $7 a week; boy 16 years old paid $3.50 a week. Rent, $14 per month.

TABLE 31.—*Food materials and table and kitchen wastes in dietary study No. 32.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Chuck	15.7	10.2	......	$0.35	1,540	242	157	......
Cross ribs	12.0	36.5	......	.63	2,040	245	745	......
Round	18.1	12.6	......	.33	1,405	254	177	......
Shoulder, no bone	19.3	11.3	......	.18	815	157	92	......
Sirloin	15.9	17.6	......	.48	1,155	184	203	......
Suet	4.8	79.9	......	......	625	30	499	......
Bologna sausage (*a*)	14.6	23.4	......	.15	500	73	117	......
Cervelat sausage (*a*)	25.9	41.2	4.8	.20	455	118	187	22
Total	......	......	......	2.32	8,535	1,303	2,177	22
Veal:								
Loin (*a*)	14.7	3.8	......	.53	1,315	193	50	......
Shoulder	16.6	8.7	......	.06	260	43	23	......
Kidney	16.6	7.4	......	......	160	27	12	......
Total	......	......	......	.59	1,735	263	85	......
Lamb:								
Leg (*a*)	15.0	14.6	......	.58	1,770	266	258	......
Tallow	1.1	95.4	......	......	180	2	172	......
Total	......	......	......	.58	1,950	268	430	......
Pork:								
Chops	14.1	25.6	......	.50	1,995	281	511	......
Ham	13.3	33.4	......	.20	430	57	144	......
Total	......	......	......	.70	2,425	338	655	......
Fish, fresh cod	10.6	.2	......	.30	1,385	147	3	......
Eggs (12 per cent shell)	14.9	10.6	......	.96	3,830	571	406	......
Butter	......	82.4	......	.13	225	......	185	......
Cheese, Swiss	27.6	34.9	1.3	.23	365	101	127	5
Milk	3.3	4.0	5.0	.05	905	30	36	45
Condensed milk	8.2	7.1	52.3	.46	2,770	227	197	1,449
Total animal food	......	......	......	6.32	24,125	3,248	4,301	1,521
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Flour, wheat (*a*)	12.1	.7	77.1	.16	3,070	371	21	2,367
Oatmeal	15.6	7.3	68.0	.02	270	42	20	184
Rice	7.8	.4	79.0	.11	795	62	3	628
Bread, rye (*a*)	11.1	.7	54.7	.24	3,480	386	24	1,904
Bread, wheat	9.5	1.2	52.8	.11	1,860	177	22	982
Buns, sugar (*a*)	8.3	9.4	54.9	.40	3.085	256	290	1,694
Crackers, soda	10.3	9.4	70.5	.02	120	12	11	85
Doughnuts (*a*)	6.2	21.6	45.8	.35	2.380	148	514	1,090
Rolls, milk (*a*)	8.5	9.6	54.4	.40	3,990	339	383	2,171
Sugar, granulated	......	......	100.0	.10	1,015	......	......	1,015
Total	......	......	......	1.91	20,065	1,793	1,288	12,120
Vegetables:								
Cabbage, red (15 per cent refuse)	2.1	.4	5.8	.15	1,315	28	5	76
Cabbage sprouts (*a*)	1.8	.4	1.7	.08	1,680	30	7	29
Carrots (8.5 per cent refuse)	1.1	.5	9.0	.03	975	11	5	88
Leeks (*a*)	.7	.3	3.5	.02	45	......	......	2
Lettuce	1.1	.3	2.7	.25	890	10	3	24
Onions	1.5	.4	8.9	.06	545	8	2	49
Peas, canned	3.6	.2	9.8	.10	615	22	1	60
Pickles, cucumber	.5	.5	5.4	.10	615	3	3	33
Potatoes (16 per cent refuse)	2.1	.1	18.0	.23	6,355	133	6	1,144
Sauerkraut (*a*)	1.5	.8	4.4	.10	1,770	27	14	78
Tomatoes, fresh	.8	.4	3.9	.01	70	1	......	3
Turnips (16 per cent refuse)	1.4	.2	8.7	.03	1,370	19	3	119
Total	......	......	......	1.16	16,245	292	49	1,705
Fruit, nuts, etc.:								
Lemons	.7	.6	5.8	.01	45	......	......	3
Prunes, dried (10 per cent pits)	2.4	.8	68.9	.07	500	12	4	345
Total	......	......	......	.08	545	12	4	348
Total vegetable food	......	......	......	3.15	36,855	2,097	1,341	14,173
Total food	......	......	......	9.47	60,980	5,345	5,642	15,694
Table and kitchen waste (*a*)	38.6	46.0	4.9	......	225	87	103	11

a Analyzed in connection with this dietary.

TABLE 32.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 32.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	231	34	51	1	20.0	34.3	47.7	0.2	36.9
Pork, lard, etc	46	6	12	....	4.0	6.3	11.6	....	7.4
Fish, etc	26	3	....	....	2.3	2.8	.1	....	3.1
Eggs	72	11	8	....	6.3	10.7	7.2	....	10.1
Butter	4	....	3	....	.4	....	3.3	....	1.4
Cheese	7	2	2	....	.6	1.9	2.2	....	2.4
Milk	17	1	1	1	1.5	.6	.6	.3	.5
Condensed milk	52	4	4	27	4.5	4.2	3.5	9.2	4.9
Total animal food	455	61	81	29	39.6	60.8	76.2	9.7	66.7
Cereals, sugars, starches	378	34	24	229	32.9	33.5	22.8	77.2	20.2
Vegetables	307	6	1	32	26.6	5.5	.9	10.9	12.3
Fruits	10	....	....	6	.9	.2	.1	2.2	.8
Total vegetable food	695	40	25	267	60.4	39.2	23.8	90.3	33.3
Total food	1,150	101	106	296	100.0	100.0	100.0	100.0	100.0

TABLE 33.—*Nutrients and potential energy in food purchased, rejected, and eaten per man per day in dietary study No 32.*

Kind of food.	Cost.	Weights and fuel value.				Percentages of total food.			
		Protein.	Fat.	Carbohydrates.	Fuel value.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY.									
Food purchased:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Animal	12	61	81	29	1,120	60.8	76.2	9.7	42.9
Vegetable	6	40	25	267	1,490	39.2	23.8	90.3	57.1
Total	18	101	106	296	2,610	100.0	100.0	100.0	100.0
Waste:									
Animal	....	2	2	....	15	1.6	1.8	....	.9
Vegetable	....	....	....	....	....	....	....	.1	....
Total	....	2	2	....	15	1.6	1.8	.1	.9
Food actually eaten:									
Animal	....	59	79	29	1,105	59.2	74.4	9.7	42.0
Vegetable	....	40	25	267	1,490	39.2	23.8	90.2	57.1
Total	....	99	104	296	2,595	98.4	98.2	99.9	99.1

DIETARY STUDY OF A SAILOR'S FAMILY (No. 33).

The study began April 26, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man (English) 50 years old	27
Woman (Scotch) 45 years old (24 meals × 0.8 meal of man), equivalent to	19
Girl 17 years old (21 meals × 0.7 meal of man), equivalent to	15
Boy 11 years old (30 meals × 0.6 meal of man), equivalent to	18
Girl 8 years old (30 meals × 0.5 meal of man), equivalent to	15
Girl 6 years old (30 meals × 0.5 meal of man), equivalent to	15
Girl 4 years old (30 meals × 0.4 meal of man), equivalent to	12
Total number of meals taken equivalent to	121

Equivalent to 1 man 40 days.

Remarks.—Income, $60 a month when employed. Rent, $14 a month.

TABLE 34.—*Food materials and table and kitchen wastes in dietary study No. 33.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Round	18.1	12.6	......	$0.60	2,270	411	286	....
Sirloin	15.9	17.6	......	.28	905	144	159	....
Brisket, corned	14.7	19.4	......	.15	1,490	219	289	....
Suet	4.8	79.9	......	....	160	8	128	....
Total	......	......	......	1.03	4,825	782	862	....
Mutton, leg	14.9	14.9	......	1.68	5,285	787	787	....
Pork:								
Chops	14.1	25.6	......	.15	615	87	157	
Pigs' feet	10.0	9.3	......	.27	2,270	227	211	
Bacon	9.2	61.8	......	.60	2,155	198	1,332	....
Total	......	......	......	1.02	5,040	512	1,700	....
Fish, shad, dressed	9.2	4.8	......	.55	2,970	273	143	....
Eggs	13.1	9.5	......	1.00	4,715	618	448	....
Butter (*a*)	1.2	85.4	......	.77	1,360	16	1,161	....
Cheese, English	29.9	38.9	2.6	.09	225	67	88	6
Milk	3.3	4.0	5.0	.42	6,235	206	249	312
Total animal food	......	......	......	6.56	30,655	3,261	5,438	318
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Flour, Pettijohn's, prepared (*a*)	9.9	2.0	78.6	.02	170	17	3	132
Flour, wheat	11.3	1.1	74.6	.12	2,405	272	26	1,794
Bread, wheat (*a*)	8.8	1.6	47.6	.86	13,315	1,172	213	6,338
Rolls, French	10.2	5.2	60.4	.10	455	46	24	275
Rolls, water (*a*)	9.6	2.0	55.8	.40	3,140	301	63	1,752
Sugar, granulated	......	......	100.0	1.02	8,755	....	....	8,755
Total	......	......	......	2.52	28,240	1,808	329	19,046
Vegetables:								
Beans, Lima (*a*)	20.9	1.6	61.6	.15	885	184	14	545
Cabbage sprouts (*a*)	1.8	.4	1.7	.10	1,495	27	6	25
Corn, canned	2.8	1.3	19.3	.12	520	15	7	101
Onions, Bermuda	1.5	.4	8.9	.10	340	5	1	30
Potatoes	1.8	.1	15.3	.57	13,380	240	13	2,047
Radishes	1.0	.1	4.6	.05	55	1	....	2
Spinach	2.1	.5	3.1	.08	1,360	29	7	42
Tomatoes, canned	1.2	.2	4.0	.20	2,070	25	4	83
Turnips	1.0	.1	6.1	.08	1,405	14	1	86
Total	......	......	......	1.45	21,510	540	53	2,961
Total vegetable food	......	......	......	3.97	49,750	2,348	382	22,007
Total food	......	......	......	10.53	80,405	5,609	5,820	22,325
Table and kitchen waste (*a*)	21.4	59.8	9.4	....	160	35	97	15

a Analyzed in connection with this dietary.

TABLE 35.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 33.*

Kind of food material.	Weights.				Percentages of total food.				Cost.
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	253	39	41	....	12.6	28.0	28.3	....	25.7
Pork, lard, etc	126	13	43	....	6.3	9.1	29.2	....	9.7
Fish, etc	77	7	4	....	3.7	4.8	2.5	....	5.2
Eggs	114	15	11	....	5.8	11.0	7.7	....	9.5
Butter	34	....	29	....	1.7	.3	19.9	....	7.3
Cheese	6	2	2	....	.3	1.2	1.5	....	.9
Milk	156	5	6	8	7.7	3.7	4.3	1.4	4.0
Total animal food	766	81	136	8	38.1	58.1	93.4	1.4	62.3
Cereals, sugars, starches	706	45	8	476	35.1	32.3	5.7	85.3	23.9
Vegetables	538	14	1	74	26.8	9.6	.9	13.3	13.8
Total vegetable food	1,244	59	9	550	61.9	41.9	6.6	98.6	37.7
Total food	2,010	140	145	558	100.0	100.0	100.0	100.0	100.0

TABLE 36.—*Nutrients and potential energy in food purchased, rejected, and eaten per man per day in dietary study No. 33.*

Kind of food.	Cost.	Weights and fuel value.				Percentages of total food.			
		Protein.	Fat.	Carbohydrates.	Fuel value.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY.									
Food purchased:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Animal	16	81	136	8	1,605	58.1	93.4	1.4	38.7
Vegetable	10	59	9	550	2,585	41.9	6.6	98.6	61.3
Total	26	140	145	558	4,190	100.0	100.0	100.0	100.0
Waste:									
Animal	....	1	2	....	20	.6	1.7	....	.6
Vegetable	....	....	....	....	....	....	....	.1	.1
Total	....	1	2	....	20	.6	1.7	.1	.7
Food actually eaten:									
Animal	....	80	134	8	1,585	57.5	91.7	1.4	38.1
Vegetable	....	59	9	550	2,585	41.9	6.6	98.5	61.2
Total	....	139	143	558	4,170	99.4	98.3	99.9	99.3

DIETARY STUDY OF A WATCHMAN'S FAMILY (No. 34).

The study began April 27, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man (German) 50 years old	29
Woman (Irish-American), 40 years old (30 meals × 0.8 meal of man), equivalent to	24
Man 20 years old	29
Girl 14 years old (29 meals × 0.7 meal of man), equivalent to	20
Boy 10 years old (30 meals × 0.6 meal of man), equivalent to	18
Boy 8 years old (30 meals × 0.5 meal of man), equivalent to	15
Girl 6 years old (30 meals × 0.5 meal of man), equivalent to	15
Girl 4 years old (30 meals × 0.4 meal of man), equivalent to	12
Girl 2 years old (30 meals × 0.4 meal of man), equivalent to	12
Total number of meals taken equivalent to	174

Equivalent to 1 man 58 days.

Remarks.—Income: Man, $8 per week; oldest son paid $6 per week. Rent, $12 per month.

TABLE 37.—*Food materials and table and kitchen wastes in dietary study No. 34.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Rib	13.4	21.3		$0.73	2,695	361	574	
Shoulder clod	19.3	11.3		.30	1,360	262	154	
Sirloin	15.9	17.6		.42	1,445	230	254	
Soup meat	9.1	5.3		.05	710	64	38	
Rump, corned	14.4	22.0		.75	3,310	477	728	
Suet	4.8	79.9			200	10	160	
Total				2.25	9,720	1,404	1,908	
Veal, rib, no bone	20.2	6.2		.18	455	92	28	
Lamb:								
Breast	15.5	19.1		.15	1,105	171	211	
Leg, fat	14.8	23.7		.78	2,720	403	645	
Total				.93	3,825	574	856	
Pork:								
Chops	14.1	25.6		.12	400	56	102	
Lard		100.0		.01	40		40	
Total				.13	440	56	142	
Eggs (11 per cent shell)	14.9	10.6		.38	2,125	317	225	
Butter (*a*)	1.1	81.7		.91	1,600	18	1,307	
Milk	3.3	4.0	5.0	.50	10,520	347	421	526
Condensed milk (*a*)	7.4	9.4	51.6	.41	1,745	129	164	900
Total animal food				5.69	30,430	2,937	5,051	1,426
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Barley	9.3	1.0	77.6	.03	125	12	1	97
Rice	7.8	.4	79.0	.06	455	35	2	359
Bread, wheat (*a*)	10.2	2.2	60.6	.78	14,250	1,454	313	8,635
Crackers, soda	10.3	9.4	70.5	.09	455	47	43	321
Jumbles (*a*)	6.2	15.7	51.9	.15	765	47	120	397
Sugar			100.0	.33	3,510			3,510
Total				1.44	19,560	1,595	479	13,319
Vegetables:								
Carrots	.9	.4	7.2	.02	310	3	1	22
Corn, canned	2.8	1.3	19.3	.10	455	13	6	88
Leeks (*a*)	.7	.3	3.5	.02	60			2
Onions	1.5	.4	8.9	.07	270	4	1	24
Parsley	1.1	.3	2.7	.06	230	3	1	6
Peas, dried	24.1	1.1	61.5	.10	905	218	10	556
Peas, green	4.4	.5	16.1	.12	680	30	3	110
Potatoes (21 per cent refuse)	2.1	.1	18.0	.25	4,060	85	4	731
Radishes	1.0	.1	4.6	.05	340	3		16
Tomatoes, canned	1.2	.2	4.0	.09	1,020	12	2	41
Turnips (17 per cent refuse)	1.4	.2	8.7	.08	2,130	30	4	185
Total				.96	10,460	401	32	1,781
Total vegetable food				2.40	30,020	1,996	511	15,100
Total food				8.09	60,450	4,933	5,562	16,526
Table and kitchen waste (*a*)	20.4	36.7	33.0		705	144	259	232

a Analyzed in connection with this dietary.

TABLE 38.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 34.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	241	37	48	....	22.7	41.1	49.9	....	41.3
Pork, lard, etc	7	1	2	....	.7	1.1	2.5	....	1.6
Eggs	37	5	4	....	3.4	6.3	4.0	....	4.7
Butter	28	....	23	....	2.6	.4	23.4	....	11.2
Milk	188	6	7	9	17.7	7.1	7.8	3.2	6.1
Condensed milk	30	2	3	16	2.8	2.6	2.9	5.2	5.0
Total animal food	531	51	87	25	49.9	58.6	90.5	8.4	69.9
Cereals, sugars, starches	354	29	8	240	33.2	33.4	8.9	81.2	18.3
Vegetables	180	7	1	31	16.9	8.0	.6	10.4	11.8
Total vegetable food	534	36	9	271	50.1	41.4	9.5	91.6	30.1
Total food	1,065	87	96	296	100.0	100.0	100.0	100.0	100.0

TABLE 39.—*Nutrients and potential energy in food purchased, rejected, and eaten per man per day in dietary study No. 34.*

Kind of food.	Cost.	Weights and fuel value.				Percentages of total.			
		Protein.	Fat.	Carbohydrates.	Fuel value.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY.									
Food purchased:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Animal	10	51	87	25	1,125	58.6	90.5	8.4	45.5
Vegetable	4	36	9	271	1,340	41.4	9.5	91.6	54.5
Total	14	87	96	296	2,465	100.0	100.0	100.0	100.0
Waste:									
Animal	....	2	4	....	45	2.3	4.5	....	2.0
Vegetable	....	1	....	4	20	.6	.2	1.4	.8
Total	....	3	4	4	65	2.9	4.7	1.4	2.8
Food actually eaten:									
Animal	....	49	83	25	1,080	56.3	86.0	8.4	43.5
Vegetable	....	35	9	267	1,320	40.8	9.3	90.2	53.7
Total	....	84	92	292	2,400	97.1	95.3	98.6	97.2

DIETARY STUDY OF A CARPET DYER'S FAMILY (No. 35).

The study began April 27, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man (Irish) 34 years old	30
Woman (Irish) 34 years old (30 meals × 0.8 meal of man), equivalent to	24
Girl 14 years old (30 meals × 0.7 meal of man), equivalent to	21
Boy 12 years old (30 meals × 0.6 meal of man), equivalent to	18
Girl 11 years old (30 meals × 0.6 meal of man), equivalent to	18
Boy 7 years old (30 meals × 0.5 meal of man), equivalent to	15
Girl 6 years old (30 meals × 0.5 meal of man), equivalent to	15
Girl 4 years old (30 meals × 0.4 meal of man), equivalent to	12
Boy 3 years old (30 meals × 0.4 meal of man), equivalent to	12
Girl 2 years old (30 meals × 0.4 meal of man), equivalent to	12
Girl 8 months old (30 meals × 0.3 meal of man), equivalent to	9
3 male boarders	90
Total number of meals taken equivalent to	276

Equivalent to 1 man 92 days.

Remarks.—Rent, $14 per month; top floor; five rooms.

TABLE 40.—*Food materials and table and kitchen wastes in dietary study No. 35.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Chuck	15.7	10.2	......	$0.19	680	107	69	....
Cross ribs	12.0	36.5	......	.50	6,190	743	2,259	....
Round	18.1	12.6	......	.71	2,040	369	257	....
Dried and smoked	31.8	6.8	.6	.10	170	54	12	1
Suet	4.8	79.9	......	....	135	6	108	....
Total	......	......	......	1.50	9,215	1,279	2.705	1
Pork:								
Chops	14.1	25.6	......	.63	2,495	352	639	....
Bacon	9.2	61.8	......	.45	1,360	125	840	....
Ham	13.3	33.4	......	.99	4,625	615	1,545	....
Total	......	......	......	2.07	8,480	1.092	3,024	....
Poultry, chicken	12.5	10.2	......	.55	2.495	312	254	....
Fish, etc.:								
Cod, fresh	10.6	.2	......	.20	905	96	2	....
Salmon, canned	20.7	10.8	1.2	.36	905	187	98	11
Sardines, canned	25.3	12.7	......	.12	455	115	58	....
Total	......	......	......	.68	2.265	398	158	11
Eggs (12.5 per cent shell)	14.9	10.6	......	1.10	3,940	587	418	....
Butter (*a*)	.9	85.6	......	2.25	3,630	33	3,107	....
Cheese, English	29.9	38.9	2.6	.18	410	123	159	11
Milk	3.3	4.0	5.0	.79	11,725	387	469	587
Condensed milk	8.2	7.1	52.3	.09	455	37	32	238
Total animal food	......	......	......	9.21	42,615	4,248	10,326	848
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Barley	9.3	1.0	77.6	.08	680	63	7	528
Wheat flour	11.3	1.1	74.6	.10	1,725	195	19	1,287
Oat flakes (*a*)	15.1	7.7	68.3	.12	1,360	205	105	....
Rice	7.8	.4	79.0	.08	410	32	2	324
Bread, rye	10.1	.7	55.9	.08	1,000	101	7	559
Bread, wheat (*a*)	8.6	2.7	52.1	1.17	12,550	1,079	339	6,538
Do (*a*)	9.0	.9	54.7	.88	9.205	828	83	5,036
Buns, sugar (*a*)	7.6	6.8	49.0	.05	410	31	28	201
Cake, apple	7.0	8.1	63.4	.15	565	40	46	358
Crackers, soda	10.3	9.4	70.5	.10	455	47	43	321
Macaroni	11.7	1.6	72.9	.12	455	53	7	332
Rolls, water (*a*)	8.5	3.9	52.6	.02	115	10	4	60
Tapioca	.4	.3	87.5	.08	455	2	1	398
Sugar	......	......	100.0	.67	6,850	....	....	6.850
Total	......	......	......	3.70	36,235	2,686	691	22,792
Vegetables:								
Cabbage sprouts (*a*)	1.8	.4	1.7	.10	1,770	32	7	30
Onions	1.5	.4	8.9	.20	2,765	41	11	246
Potatoes (19.5 per cent refuse)	2.1	.1	18.0	.71	15,865	333	16	2,856
Soup greens	3.8	.9	8.9	.03	170	6	2	15
Total	......	......	......	1.04	20.570	412	36	3,147
Fruit, nuts, etc.:								
Jam	1.1	......	77.1	.23	575	6	....	443
Plums, canned	.5	.2	5.3	.08	225	1	....	12
Prunes, dried	2.0	.7	58.6	.23	680	14	5	398
Raisins	2.5	4.7	74.7	.09	455	11	21	340
Total	......	......	......	.63	1.935	32	26	1,193
Total vegetable food	......	......	......	5.37	58.740	3,130	753	27,132
Total food	......	......	......	14.58	101,355	7.378	11.079	27,980
Table and kitchen waste (*a*)	11.2	39.3	43.1	....	775	87	306	335
Clear fat	......	100.0	......	....	115	....	115	....
Total	......	......	......	....	890	87	421	335

a Analyzed in connection with this dietary.

TABLE 41.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 35.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	52	8	12	....	5.0	11.1	12.3	....	10.3
Pork, lard, etc	77	10	28	....	7.5	13.6	28.4	....	14.2
Poultry	27	4	3	....	2.6	4.7	2.8	....	3.8
Fish, etc	25	4	2	....	2.4	6.0	1.7	....	4.6
Eggs	43	7	4	....	4.1	8.8	4.6	....	7.5
Butter	39	....	34	....	3.8	.5	34.4	....	15.4
Cheese, English	4	1	2	....	.4	1.8	1.8	....	1.2
Milk	123	4	5	6	12.4	5.8	5.2	2.1	5.4
Condensed milk	5	....	....	3	.5	.6	.4	.8	.6
Total animal food	400	38	90	9	38.7	52.9	91.6	2.9	63.0
Cereals, sugars, starches	397	30	7	260	38.5	40.7	7.7	82.6	25.6
Vegetables	214	4	1	32	20.7	5.9	.4	10.4	7.1
Fruits	21	....	....	13	2.1	.5	.3	4.1	4.3
Total vegetable food	632	34	8	305	61.3	47.1	8.4	97.1	37.0
Total food	1,032	72	98	314	100.0	100.0	100.0	100.0	100.0

TABLE 42.—*Nutrients and potential energy in food purchased, rejected, and eaten per man per day in dietary study No. 35.*

Kind of food.	Cost.	Weights and fuel value.				Percentages of total food.			
		Protein.	Fat.	Carbohydrates.	Fuel value.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY.									
Food purchased:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Animal	10	38	90	9	1,030	52.9	91.6	3.0	41.9
Vegetable	6	34	8	305	1,465	47.1	8.4	97.0	58.1
Total	16	72	98	314	2,495	100.0	100.0	100.0	100.0
Waste:									
Animal	....	1	5	....	50	.7	3.7	....	1.6
Vegetable	....	....	....	4	15	.5	.1	1.2	.7
Total	....	1	5	4	65	1.2	3.8	1.2	2.3
Food actually eaten:									
Animal	....	37	85	9	980	52.2	87.9	3.0	40.3
Vegetable	....	34	8	301	1,450	46.6	8.3	95.8	57.4
Total	....	71	93	310	2,430	98.8	96.2	98.8	97.7

DIETARY STUDY OF A GERMAN FAMILY (No. 37).

The study began May 16, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man (German) 30 years old	10
Woman (German) 40 years old (30 meals × 0.8 meal of man), equivalent to	24
Girl 21 years old (30 meals × 0.8 meal of man), equivalent to	24
Girl 20 years old (30 meals × 0.8 meal of man), equivalent to	24
Girl 13 years old (30 meals × 0.6 meal of man), equivalent to	18
Girl 7 years old (30 meals × 0.5 meal of man), equivalent to	15
Girl 5 years old (30 meals × 0.4 meal of man), equivalent to	12
Total number of meals taken, equivalent to	127

Equivalent to 1 man 42 days.

Remarks.—Total income, $15 per week. Rent, $14 per month; top floor, five rooms.

TABLE 43.—*Food materials and table and kitchen wastes in dietary study No. 37.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Shank, hind	9.1	5.3	......	$0.32	4,030	367	213	....
Suet	4.8	79.9	......	....	225	11	180	....
Total	......	......	......	.32	4,255	378	393	....
Veal:								
Shoulder	16.6	8.7	......	.25	1,815	301	158	....
Shoulder, no bone	19.9	10.7	......	.36	1,815	361	194	....
Total	......	......	......	.61	3,630	662	352	....
Mutton:								
Chops	13.2	28.6	......	.13	625	83	178	....
Tallow	1.1	95.4	......	....	85	1	81	....
Total	......	......	......	.13	710	84	259	....
Pork:								
Chops	14.1	25.6	......	.12	455	64	116	....
Ham, lean	17.9	18.5	......	.83	2,950	528	546	....
Salt pork	1.8	87.2	......	.10	455	8	397	....
Lard	......	100.0	......	.08	455	....	455	....
Total	......	......	......	1.13	4,315	600	1,514	....
Eggs	13.1	9.5	......	.27	1,005	132	95	....
Butter	......	82.4	......	.35	555	....	457	....
Condensed milk	8.2	7.1	52.3	.42	2,720	223	193	1,423
Total animal food	......	......	......	3.23	17,190	2,079	3,263	1,423
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Flour	11.3	1.1	74.6	.08	1,195	135	13	891
Bread, rye	10.1	.7	55.9	.25	3,090	312	22	1,727
Bread, wheat	9.5	1.2	52.8	.11	1,785	170	21	942
Cakes, coffee	8.6	6.6	53.9	.50	2,960	255	195	1,595
Macaroni	11.7	1.6	72.9	.09	455	53	7	332
Rolls, milk	8.5	9.6	54.4	.20	1,680	143	161	914
Sugar	......	......	100.0	.04	455	....	....	455
Total	......	......	......	1.27	11,620	1,068	419	6,856
Vegetables:								
Beans, dry	22.3	1.8	59.1	.15	1,245	278	22	736
Cabbage (28.5 per cent refuse)	2.1	.4	5.8	.15	1,300	27	5	75
Carrots (18 per cent refuse)	1.1	.5	9.0	.02	265	3	1	24
Leeks	1.0	.4	5.0	.02	340	3	1	17
Lettuce (21.5 per cent refuse)	1.3	.4	3.3	.10	630	8	3	21
Onions	1.5	.4	8.9	.06	1,025	15	4	91
Parsley	1.3	.4	3.3	.02	40	1	....	1
Peas, green, (without pods)	4.4	.5	16.1	.05	820	36	4	132
Potatoes (27.5 per cent refuse)	2.1	.1	18.0	.19	3,805	80	4	685
Radishes (29 per cent refuse)	1.4	.1	6.6	.02	245	3	....	16
Greens	3.8	.9	8.9	.10	975	37	9	87
Tomatoes, canned	1.2	.2	4.0	.12	905	11	2	36
Total	......	......	......	1.00	11,595	502	55	1,921
Fruits, nuts, etc:								
Apples, dried	1.4	3.0	57.6	.05	225	3	7	130
Jelly	1.2	......	59.8	.08	680	8	....	407
Prunes, dried (19 per cent refuse)	2.4	.8	68.9	.05	370	9	3	255
Total	......	......	......	.18	1,275	20	10	792
Total vegetable food	......	......	......	2.45	24,490	1,590	484	9,569
Total food	......	......	......	5.68	41,680	3,669	3,747	10,992
Table and kitchen waste (*a*)	35.9	24.2	25.3	....	275	98	66	69

a Analyzed in connection with this dietary.

TABLE 44.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 37.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton..	204	27	24	....	20.6	30.6	26.8	....	23.1
Pork, lard, etc..........	103	14	36	....	10.4	16.4	40.4	....	18.8
Eggs....................	24	3	2	....	2.4	3.6	2.5	....	4.5
Butter..................	13	....	11	....	1.3	....	12.2	....	5.8
Condensed milk.........	65	5	5	34	6.5	6.1	5.2	12.9	7.0
Total animal food.	409	49	78	34	41.2	56.7	87.1	12.9	59.2
Cereals, sugars, starches	277	25	10	163	27.9	29.1	11.2	62.4	21.1
Vegetables.............	276	12	1	46	27.8	13.7	1.5	17.5	16.7
Fruits..................	30	1	....	19	3.1	.5	.2	7.2	3.0
Total vegetable food............	583	38	11	228	58.8	43.3	12.9	87.1	40.8
Total food.........	992	87	89	262	100.0	100.0	100.0	100.0	100.0

TABLE 45.—*Nutrients and potential energy in food purchased, rejected, and eaten per man per day in dietary study No. 37.*

Kind of food.	Cost.	Weights and fuel value.				Percentages of total food.			
		Protein.	Fat.	Carbohydrates.	Fuel value.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY.									
Food purchased:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Animal...........	08	49	78	34	1,065	56.7	87.1	12.9	47.1
Vegetable........	05	38	11	228	1,190	43.3	12.9	87.1	52.9
Total...........	13	87	89	262	2,255	100.0	100.0	100.0	100.0
Waste:									
Animal...........	....	2	1	....	15	2.4	1.7	....	1.0
Vegetable........	....	....	....	1	5	.3	.1	.6	.4
Total...........	....	2	1	1	20	2.7	1.8	.6	1.4
Food actually eaten:									
Animal...........	....	47	77	34	1,050	54.3	85.4	12.9	46.1
Vegetable........	....	38	11	227	1,185	43.0	12.8	86.5	52.5
Total...........	....	85	88	261	2,235	97.3	98.2	99.4	98.6

DIETARY STUDY OF A SAILORS' BOARDING HOUSE (No. 38).

The study began May 16, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man about 30 years old..	30
Woman about 50 years old (30 meals × 0.8 meal of man), equivalent to.	24
Woman about 18 years old (30 meals × 0.8 meal of man), equivalent to.	24
Woman about 16 years old (30 meals × 0.8 meal of man), equivalent to.	24
Male boarders (mostly sailors).....................................	102
Total number of meals taken equivalent to.......................	204

Equivalent to 1 man 68 days.

TABLE 46.—*Food materials and table and kitchen wastes in dietary study No. 38.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Round	18.1	12.6		$1.23	4,080	738	514	
Shank, hind	9.1	5.3		.26	1,925	175	102	
Shank, fore	12.3	7.3		.30	2,385	293	174	
Meat, chopped	19.7	13.5		.08	455	90	61	
Beef, smoked, dried	31.8	6.8	.6	.10	225	72	15	1
Flank, corned	12.4	29.2		1.20	7,940	985	2,318	
Suet	4.8	79.9			485	23	388	
Total				3.17	17,495	2,376	3,572	1
Veal:								
Chops	16.0	8.6		.24	1,390	222	120	
Leg, no bone	20.1	8.4		.60	2,495	501	210	
Tallow	4.8	79.9			170	8	136	
Total				.84	4,055	731	466	
Mutton, stew meat	11.7	17.6		.10	905	106	159	
Pork:								
Chops	14.1	25.6		.48	1,815	256	465	
Bacon	9.2	61.8		.30	1,245	114	769	
Lard and olive oil (*a*)		100.0		.18	570		570	
Total				.96	3,630	370	1.804	
Fish, etc.:								
Flounder	6.3	.3		.25	2,525	159	8	
Haddock	8.2	.2		.22	2,270	186	5	
Clams	6.5	.4	4.2	.15	515	33	2	22
Total				.62	5,310	378	15	22
Eggs (16.5 per cent refuse)	14.9	10.6		.65	2,155	321	228	
Butter		82.4		1.20	2,270		1,870	
Cheese	24.9	34.3	.8	.30	905	225	310	8
Cheese, Limburger	23.0	29.4	.4	.10	115	26	34	1
Milk	3.3	4.0	5.0	.10	905	30	36	45
Buttermilk	3.0	.5	4.8	.05	1,815	54	9	87
Condensed milk	8.2	7.1	52.3	.41	2,270	186	161	1,187
Total animal food				8.50	41,830	4,803	8,664	1,351
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Flour	10.3	1.1	74.6	.04	455	51	5	339
Rice	7.8	.4	79.0	.06	540	42	2	427
Pumpernickle and zwieback	10.1	.7	55.9	.13	735	74	5	411
Bread, rye	10.1	.7	55.9	.33	5,040	509	35	2,817
Bread	9.5	1.2	52.8	.04	625	59	8	330
Sugar			100.0	.10	905			905
Total				.70	8,300	735	55	5,229
Vegetables:								
Beans, dry	22.3	1.8	59.1	.13	1,645	367	30	972
Beans, string	2.2	.4	9.4	.08	655	14	3	62
Beets (24 per cent refuse)	1.6	.1	9.6	.08	1,640	26	2	157
Cabbage (51.5 per cent refuse)	2.1	.4	5.8	.22	945	20	4	55
Carrots	.9	.4	7.2	.03	600	5	2	43
Cucumbers (1.5 per cent refuse)	.8	.2	2.5	.12	1,475	12	3	37
Greens, soup	3.8	.9	8.9	.07	130	5	1	12
Leeks	1.0	.4	5.0	.01	340	3	1	17
Lettuce (15 per cent refuse)	1.3	.4	3.3	.07	445	6	2	15
Onions	1.5	.4	8.9	.08	1,360	20	5	121
Peas, green, shelled	4.4	.5	16.1	.08	500	22	3	80
Potatoes (9.5 per cent refuse)	2.1	.1	18.0	1.27	22,645	476	23	4,076
Radishes	1.0	.1	4.6	.10	515	5		24
Tomatoes, canned	1.2	.2	4.0	.14	1,590	19	3	64
Total				2.48	34,485	1,000	82	5,735
Total vegetable food				3.18	42,785	1,735	137	10,964
Total food				11.68	84,615	6,538	8,801	12,315
Table and kitchen waste (*b*)	16.1	70.3	5.7		355	57	250	20

a Olive oil 115 grams.

b Analyzed in connection with this dietary.

TABLE 47.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 38.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	330	47	62	....	26.5	49.2	47.7	....	35.2
Pork, lard, etc	53	5	27	....	4.3	5.7	20.5	....	8.2
Fish, etc	78	5	....	....	6.3	5.8	.2	0.2	5.3
Eggs	32	5	3	....	2.5	4.9	2.6	....	5.6
Butter	34	....	27	....	2.7	....	21.3	....	10.3
Cheese	15	4	5	....	1.2	3.8	3.9	.1	3.4
Milk	13	....	1	1	1.1	.5	.4	.4	.9
Buttermilk	27	1	....	1	2.1	.8	.1	.7	.4
Condensed milk	33	3	2	18	2.7	2.8	1.8	9.6	3.5
Total animal food	615	70	127	20	49.4	73.5	98.5	11.0	72.8
Cereals, sugars, starches	122	11	1	77	9.8	11.2	.6	42.4	6.0
Vegetables	507	15	1	84	40.8	15.3	.9	46.6	21.2
Total vegetable food	629	26	2	161	50.6	26.5	1.5	89.0	27.2
Total food	1,244	96	129	181	100.0	100.0	100.0	100.0	100.0

TABLE 48.—*Nutrients and potential energy in food purchased, rejected, and eaten per man per day in dietary study No. 38.*

Kind of food.	Cost.	Weights and fuel value.				Percentages of total food.			
		Protein.	Fat.	Carbohydrates.	Fuel value.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY.									
Food purchased:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Animal	12	70	127	20	1,550	73.5	98.5	11.0	66.5
Vegetable	5	26	2	161	785	26.5	1.5	89.0	33.5
Total	17	96	129	181	2,335	100.0	100.0	100.0	100.0
Waste:									
Animal	....	1	4	....	40	.8	2.8	....	1.6
Vegetable	....	....	....	....	....	.1	....	.2	.1
Total	....	1	4	....	40	.9	2.8	.2	1.7
Food actually eaten:									
Animal	....	69	123	20	1,519	72.7	95.7	11.0	64.9
Vegetable	....	26	2	161	785	26.4	1.5	88.8	33.4
Total	....	95	125	181	2,295	99.1	97.2	99.8	98.3

DIETARY STUDY OF A TRUCKMAN'S FAMILY (No. 47).

The study began June 5, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man 48 years old	27
Woman 38 years old (30 meals × 0.8 meal of man), equivalent to	24
Girl 21 years old (30 meals × 0.8 meal of man), equivalent to	24
Boy 17 years old (27 meals × 0.8 meal of man), equivalent to	22
Girl 16 years old (30 meals × 0.7 meal of man), equivalent to	21
Boy 13 years old (27 meals × 0.6 meal of man), equivalent to	16
Boy 9 years old (30 meals × 0.5 meal of man), equivalent to	15
Infant (30 meals × 0.3 meal of man), equivalent to	9
Total number of meals taken equivalent to	158

Equivalent to 1 man 53 days.

TABLE 49.—*Food materials and table and kitchen wastes in dietary study No. 47.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Round	18.1	12.6	......	$1.39	3,460	626	436	......
Brisket, corned	14.7	19.4	......	.60	3,400	500	659	......
Suet	4.8	79.9	......	......	200	10	160	......
Frankfort sausages	21.7	18.8	0.4	.28	905	196	170	4
Total	......	......	......	2.27	7,965	1,332	1,425	4
Veal, leg	16.9	7.2	......	.60	2,270	384	163	......
Pork:								
Rib roast	14.1	25.6	......	30	1,335	188	342	......
Bacon	9.2	61.8	......	.17	625	58	386	......
Cottolene and olive oil (*a*)	......	100.0	......	.13	515	......	515	......
Total	......	......	......	.60	2,475	246	1,243	......
Fish, cod, fresh	10.6	.2	......	.15	905	96	2	......
Eggs	13.1	9.5	......	.65	2,500	328	237	......
Butter	......	82.4	......	1.50	2,770	......	2,282	......
Cheese, Swiss	27.6	34.9	1.3	.10	115	32	40	1
Milk	3.3	4.0	5.0	.82	9,300	307	372	465
Condensed milk	8.2	7.1	52.3	.32	905	74	64	473
Total animal food	......	......	......	7.01	29,205	2,799	5,828	943
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Bread	9.5	1.2	52.8	.79	9,270	880	111	4,895
Bread, rye	10.1	.7	55.9	.10	1,420	143	10	794
Rolls, milk	8.5	9.6	54.4	.60	4,535	385	435	2,467
Cake	7.0	8.1	63.4	.30	905	63	73	574
Cake, coffee	8.6	6.6	53.9	.10	400	34	26	216
Pie, apple	3.3	9.8	41.7	.10	570	19	56	238
Sugar	......	......	100.0	.27	3,005	......	......	3,005
Total	......	......	......	2.26	20,105	1,524	711	12,189
Vegetables:								
Beans, dry	22.3	1.8	59.1	.15	1.360	303	25	804
Beans, string	2.2	.4	9.4	.19	2,155	47	9	203
Beets	1.3	.1	7.7	.09	1,020	13	1	79
Greens, turnip	5.2	.8	7.1	.16	3,290	171	26	234
Onions	1.5	.4	8.9	.14	1,050	16	4	93
Peas, dry	24.1	1.1	61.5	.08	905	218	10	556
Peas, canned	3.6	.2	9.8	.24	1,360	49	3	133
Potatoes	1.8	.1	15.3	.93	15,115	272	15	2,312
Tomatoes, fresh	.8	.4	3.9	.08	1,815	15	7	71
Tomatoes, canned	1.2	.2	4.0	.08	905	11	2	36
Total	......	......	......	2.14	28,975	1,115	102	4,521
Fruits, nuts, etc.:								
Strawberries	1.0	.7	6.8	.48	3,400	34	24	231
Cherry jelly	1.1	......	77.1	.14	455	5	......	351
Total	......	......	......	.62	3,855	39	24	582
Total vegetable food	......	......	......	5.02	52,935	2,678	837	17,292
Total food	......	......	......	12.03	82,140	5,477	6.665	18,235
Table and kitchen waste:								
Bread, rye	10.1	.7	55.9	......	340	34	2	190
Bread, wheat	9.5	1.2	52.8	......	905	86	11	478
Beans, string	2.2	.4	9.4	......	595	13	2	56
Greens, turnip	5.2	.8	7.1	......	1,305	68	10	93
Potatoes, edible portion	2.1	.1	18.0	......	1,195	25	1	215
Total	......	......	......	......	4.340	226	26	1,032

a Olive oil, 60 grams.

TABLE 50.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 47.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton..	193	32	30	....	12.4	31.3	23.2	....	23.9
Pork, lard, etc	47	5	23	....	3.0	4.5	18.2	....	5.0
Fish, etc	17	2	....	....	1.1	1.8	....	....	1.2
Eggs	47	6	5	....	3.0	6.0	3.5	....	5.4
Butter	56	....	46	....	3.6	....	35.9	....	12.5
Cheese	2	1	1	....	.2	.6	.6	....	.8
Milk	176	6	7	9	11.3	5.6	5.5	2.6	6.8
Condensed milk........	17	1	1	9	1.1	1.3	.9	2.6	2.7
Total animal food.	555	53	113	18	35.7	51.1	87.8	5.2	58.3
Cereals, sugars, starches	379	29	13	230	24.4	27.8	10.4	66.8	18.8
Vegetables	547	21	2	85	35.2	20.4	1.5	24.8	17.8
Fruits	73	1	1	11	4.7	.7	.3	3.2	5.1
Total vegetable food........	999	51	16	326	64.3	48.9	12.2	94.8	41.7
Total food........	1,554	104	129	344	100.0	100.0	100.0	100.0	100.0

TABLE 51.—*Nutrients and potential energy in food purchased, rejected, and eaten per man per day in dietary study No. 47.*

Kind of food.	Cost.	Weights and fuel value.				Percentages of total food.			
		Protein.	Fat.	Carbohydrates.	Fuel value.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY.									
Food purchased:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Animal........	13	53	113	18	1,340	51.1	87.8	5.2	44.2
Vegetable........	10	51	16	326	1,690	48.9	12.2	94.8	55.8
Total........	23	104	129	344	3,030	100.0	100.0	100.0	100.0
Waste, vegetable....	....	4	....	19	95	4.1	.4	5.7	3.4
Food actually eaten:									
Animal........	....	53	113	18	1,340	51.1	87.8	5.2	44.2
Vegetable........	....	47	16	307	1,595	44.8	11.8	89.1	52.4
Total........	....	100	129	325	2,935	95.9	99.6	94.3	96.6

DIETARY STUDY OF A SEWING WOMAN'S FAMILY (No. 48).

The study began May 29, 1895, and continued 7 days.

The members of the family and number of meals taken were as follows:

	Meals.
Woman (German) 33 years old (21 meals × 0.8 meal of man), equivalent to........	17
Boy 14 years old (21 meals × 0.8 meal of man), equivalent to........	17
Boy 11 years old (21 meals × 0.6 meal of man), equivalent to........	13
Boy 8 years old (21 meals × 0.5 meal of man), equivalent to........	11
Girl 6 years old (21 meals × 0.5 meal of man), equivalent to........	10
Boy 4 years old (21 meals × 0.4 meal of man), equivalent to........	8
Boy 3 years old (21 meals × 0.4 meal of man), equivalent to........	8
Total number of meals taken equivalent to........	84

Equivalent to 1 man 28 days.

Remarks.—The mother took in sewing and went out cleaning. The oldest boy earned $3 a week. Rent, $10 per month.

TABLE 52.—*Food materials and table and kitchen wastes in dietary study No. 48.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Beef, shank, hind	9.1	5.3	....	$0.10	455	41	24	....
Pork chops	14.1	25.6	....	.24	905	128	232	....
Fish, sardines (1 box)	25.3	12.7	....	.08	230	58	29	....
Eggs	13.1	9.5	....	.39	1,625	213	154	....
Butter	....	82.4	....	.10	225	....	185	....
Milk	3.3	4.0	5.0	.47	8,390	277	336	419
Total animal food	....	....	....	1.38	11.830	717	960	419
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Barley	9.3	1.0	77.6	.04	340	32	3	264
Flour, wheat	11.3	1.1	74.6	.07	1.360	154	15	1,014
Bread, wheat	9.5	1.2	52.8	.12	1.135	108	14	599
Bread, rye and wheat, stale	11.9	.3	51.5	.05	905	108	3	466
Bread, rolls	10.2	5.2	60.4	.17	1.080	110	56	652
Cakes, coffee	8.6	6.6	53.9	.10	565	49	37	305
Crackers, soda	10.3	9.4	70.5	.04	455	47	43	321
Sugar	....	....	100.0	.16	1,735	....	....	1,735
Total	....	....	....	.75	7.575	608	171	5.356
Vegetables:								
Beans, dry	22.3	1.8	59.1	.15	905	202	16	535
Potatoes	1.8	.1	15.3	.09	1,815	33	2	277
Radishes	1.0	.1	4.6	.02	285	3	....	13
Rhubarb	.4	.4	2.2	.02	180	1	1	4
Tomatoes, canned	1.2	.2	4.0	.06	1.135	14	2	45
Total	....	....	....	.34	4,320	253	21	874
Total vegetable food	....	....	....	1.09	11,895	861	192	6.230
Total food	....	....	....	2.47	23,725	1,578	1,152	6.649
Table and kitchen waste	9.5	1.2	52.8	....	965	92	12	509

TABLE 53.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 48.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	16	1	1	....	1.9	2.6	2.1	....	4.1
Pork, lard, etc	32	5	8	....	3.8	8.1	20.1	....	9.7
Fish, etc	8	2	1	....	1.0	3.7	2.5	....	3.2
Eggs	58	8	5	....	6.9	13.5	13.4	....	15.8
Butter	8	....	7	....	.9	....	16.0	....	4.1
Milk	300	10	12	15	35.4	17.5	29.2	6.3	19.0
Total animal food	422	26	34	15	49.9	45.4	83.3	6.3	55.9
Cereals, sugars, starches	271	22	6	191	31.9	38.5	14.9	80.6	30.4
Vegetables	154	9	1	31	18.2	16.1	1.8	13.1	13.7
Total vegetable food	425	31	7	222	50.1	54.6	16.7	93.7	44.1
Total food	847	57	41	237	100.0	100.0	100.0	100.0	100.0

TABLE 54.—*Nutrients and potential energy in food purchased, rejected, and eaten per man per day in dietary study No. 48.*

Kind of food.	Cost.	Weights and fuel value.				Percentages of total food.			
		Protein.	Fat.	Carbohydrates.	Fuel value.	Protein.	Fat.	Carbohydrates.	Food value.
PER MAN PER DAY.									
Food purchased:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Animal	5	26	34	15	485	45. 4	83. 3	6. 3	30. 6
Vegetable	4	31	7	222	1, 100	54. 6	16. 7	93. 7	69. 4
Total	9	57	41	237	1, 585	100. 0	100. 0	100. 0	100. 0
Waste, vegetable	....	3	....	18	85	6. 0	1. 0	7. 7	5. 8
Food actually eaten:									
Animal	....	26	34	15	485	45. 4	83. 3	6. 3	30. 6
Vegetable	....	28	7	204	1, 015	48. 6	15. 7	86. 0	63. 6
Total	....	54	41	219	1, 500	94. 0	99. 0	92. 3	94. 2

DIETARY STUDY OF A SHOPKEEPER'S FAMILY (No. 51).

The study began June 8, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man 64 years old	30
Man 35 years old	30
Man 25 years old	30
Girl 18 years old (30 meals × 0.8 meal of man), equivalent to	24
Boy 15 years old (30 meals × 0.8 meal of man), equivalent to	24
Girl 12 years old (30 meals × 0.6 meal of man), equivalent to	18
Total number of meals taken equivalent to	156

Equivalent to 1 man 52 days.

Remarks.—Income, $15 a week; rent, $13 a month.

TABLE 55.—*Food materials and table and kitchen wastes in dietary study No. 51.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Round steak	18. 1	12. 6	....	$0. 24	905	164	114	....
Shank, hind	9. 1	5. 3	....	. 18	1, 080	98	57	....
Liver	21. 6	5. 4	1. 8	. 16	905	195	49	16
Shoulder, corned	15. 7	10. 2	....	. 49	2, 270	356	232	....
Total	....	....	....	1. 07	5, 160	813	452	16
Pork:								
Bacon	9. 2	61. 8	....	. 11	455	42	281	....
Salt pork	1. 8	87. 2	....	. 40	2, 585	47	2, 254	....
Total	....	....	....	. 51	3, 040	89	2, 535	....
Fish, clams	6. 5	. 4	4. 2	. 40	1, 815	118	7	76
Eggs	13. 1	9. 5	....	. 77	3, 040	398	289	....
Butter	....	82. 4	....	. 59	1, 280	....	1, 055	....
Milk	3. 3	4. 0	5. 0	. 72	10, 885	359	435	544
Total animal food	....	....	....	4. 06	25, 220	1, 777	4, 773	636
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Rice	7. 8	. 4	79. 0	. 06	455	36	2	359
Bread, wheat	9. 5	1. 2	52. 8	1. 02	15, 005	1, 426	180	7, 922
Buns, sugar	8. 0	8. 1	51. 9	1. 05	8, 165	653	661	4, 237
Sugar	....	....	100. 0	. 31	3, 175	....	....	3, 175
Total	....	....	....	2. 44	26, 800	2, 115	843	15, 693

TABLE 55.—*Food materials and table and kitchen wastes in dietary study No. 51*—Cont'd.

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
VEGETABLE FOOD—continued.								
Vegetables:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Beans, Lima, dry	15.9	1.8	67.1	$0.10	455	72	8	305
Cabbage (27 per cent refuse)	2.1	.4	5.8	.10	1,980	42	8	115
Onions	1.5	4	8.9	.06	680	10	3	61
Peas, green, shelled	4.4	.5	16.1	.10	225	10	1	36
Potatoes (26 per cent refuse)	2.1	.1	18.0	.55	8,320	175	8	1,498
Soup greens	3.8	.9	8.9	.04	215	8	2	19
Tomatoes, canned	1.2	.2	4.0	.18	2,420	29	5	97
Total	......	......	......	1.13	14,295	346	35	2,131
Total vegetable food	......	......	......	3.57	41,095	2,461	878	17,824
Total food	......	......	......	7.63	66,315	4,238	5,651	18,460
Table and kitchen waste	9.5	1.2	52.8	....	340	32	4	180

TABLE 56.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 51.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	99	15	9	....	7.8	19.2	8.0	0.1	14.0
Pork, lard, etc	59	2	49	....	4.6	2.1	44.9	....	6.7
Fish, etc	35	2	....	2	2.7	2.8	.1	.4	5.2
Eggs	58	8	6	....	4.6	9.4	5.1	....	10.1
Butter	25	....	20	....	1.9	....	18.7	....	7.7
Milk	209	7	8	10	16.4	8.4	7.7	2.9	9.5
Total animal food	485	34	92	12	38.0	41.9	84.5	3.4	53.2
Cereals, sugars, starches	515	41	16	302	40.4	49.9	14.9	85.0	32.0
Vegetables	275	6	1	41	21.6	8.2	.6	11.6	14.8
Total vegetable food	790	47	17	343	62.0	58.1	15.5	96.6	46.8
Total food	1,275	81	109	355	100.0	100.0	100.0	100.0	100.0

TABLE 57.—*Nutrients in potential energy in food purchased, rejected, and eaten per man per day in dietary study No. 51.*

Kind of food.	Cost.	Weights and fuel value.				Percentages of total food.			
		Protein.	Fat.	Carbohydrates.	Fuel value.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY.									
Food purchased:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Animal	8	34	92	12	1,045	41.9	84.5	3.4	37.3
Vegetable	7	47	17	343	1,755	58.1	15.5	96.6	62.7
Total	15	81	109	355	2,800	100.0	100.0	100.0	100.0
Waste, vegetable	....	1	....	4	20	.8	.1	1.0	.6
Food actually eaten:									
Animal	....	34	92	12	1,045	41.9	84.5	3.4	37.3
Vegetable	....	46	17	339	1,735	57.3	15.4	95.6	62.1
Total	....	80	109	351	2,780	99.2	99.9	99.0	99.4

DIETARY STUDY OF A HOUSEKEEPER'S FAMILY (No. 52).

The study began June 20, 1895, and continued 9 days.

The members of the family and number of meals taken were as follows:

	Meals.
Woman 31 years old (27 meals × 0.8 meal of man), equivalent to....	22
Boy 6 years old (27 meals × 0.5 meal of man), equivalent to..........	13
Girl 8 years old (27 meals × 0.5 meal of man), equivalent to..........	13
Girl 3 years old (27 meals × 0.4 meal of man), equivalent to..........	11
Total number of meals taken equivalent to....................	59

Equivalent to 1 man 20 days.

TABLE 58.—*Food materials used in dietary study No. 52.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Round	18.1	12.6	....	$0.10	340	61	43	....
Soup meat	12.3	7.3	....	.10	455	56	33	....
Liver	21.6	5.4	1.8	.05	225	49	12	4
Total	....	....	....	.25	1,020	166	88	4
Pork:								
Chops	14.1	25.6	....	.29	1,900	268	486	....
Bacon	9.2	61.8	....	.04	115	11	71	....
Total	....	....	....	.33	2,015	279	557	....
Eggs	13.1	9.5	....	.35	1,540	202	146	....
Butter	....	82.4	....	.37	810	....	667	....
Milk	3.3	4.0	5.0	.10	2,270	75	91	113
Condensed milk	8.2	7.1	52.3	.30	1,360	112	97	711
Total animal food	....	....	....	1.70	9,015	834	1,646	828
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Flour, Pettijohn's	9.9	2.0	78.6	.06	455	45	9	....
Oat flakes	16.9	7.2	66.8	.10	905	153	65	605
Rice	7.8	.4	79.0	.03	225	18	1	178
Bread	9.5	1.2	52.8	.31	3,065	291	36	1,619
Rolls, water	9.1	3.0	54.1	.06	515	47	15	279
Buns, sugar	8.0	8.1	51.9	.25	1,975	158	160	1,025
Crackers	10.3	9.4	70.5	.30	1,360	140	128	959
Sugar	....	....	100.0	.30	3,150	....	....	3,150
Total	....	....	....	1.41	11,650	852	414	7,815
Vegetables:								
Potatoes (2.5 per cent refuse)	2.1	.1	18.0	.26	6,635	139	7	1,194
Onions	1.5	.4	8.9	.01	140	2	1	12
Tomatoes, canned	1.2	.2	4.0	.16	1,815	22	4	72
Total	....	....	....	.43	8,590	163	12	1,278
Fruits, nuts, etc.: Prunes, dried	2.0	.7	58.6	.12	455	9	3	267
Total vegetable food	....	....	....	1.96	20,695	1,024	429	9,360
Total food	....	....	....	3.66	29,710	1,858	2,075	10,188

TABLE 59.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 52.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	51	8	4	....	3.4	8.9	4.2	....	6.8
Pork, lard, etc	101	14	28	....	6.8	15.0	26.8	....	9.0
Eggs	77	10	7	....	5.2	10.9	7.0	....	9.6
Butter	40	....	33	....	2.7	....	32.2	....	10.1
Milk	114	4	5	6	7.7	4.0	4.4	1.1	2.7
Condensed milk	68	6	5	35	4.6	6.1	4.7	7.0	8.2
Total animal food	451	42	82	41	30.4	44.9	79.3	8.1	46.4
Cereals, sugars, starches	582	43	21	391	39.2	45.8	20.0	76.7	38.5
Vegetables	430	8	1	64	28.9	8.8	.6	12.6	11.8
Fruits	23	....	....	13	1.5	.5	.1	2.6	3.3
Total vegetable food	1,035	51	22	468	69.6	55.1	20.7	91.9	53.6
Total food	1,486	93	104	509	100.0	100.0	100.0	100.0	100.0

The amount of waste in this dietary was so extremely small that it amounted to practically nothing, and the figures for food purchased represent also the food eaten.

The cost and fuel value of the food purchased (and eaten) per man per day were as follows:

Cost and fuel value of food purchased per man per day.

	Cost.	Fuel value.
	Cents.	*Calories.*
Animal food	8	1,105
Vegetable food	10	2,330
Total	18	3,435

DIETARY STUDY OF A LABORER'S FAMILY (No. 96).

The study began August 21, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man 34 years old	30
Woman 40 years old (30 meals × 0.8 meal of man), equivalent to	24
Boy 20 years old	24
Boy 14 years old (30 meals × 0.8 meal of man), equivalent to	24
Boy 11 years old (30 meals × 0.6 meal of man), equivalent to	18
Girl 5 years old (30 meals × 0.4 meal of man), equivalent to	12
Total number of meals taken equivalent to	132

Equivalent to 1 man 44 days.

TABLE 60.—*Food materials used in dietary study No. 96.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Chuck	15. 7	10. 2	......	$0. 36	1, 475	232	150	......
Sirloin steak	15. 9	17. 6	......	. 72	2, 270	331	399	......
Round steak	18. 1	12. 6	......	1. 12	4, 195	759	529	......
Total	......	......	......	2. 20	7, 940	1, 352	1, 078	......
Mutton:								
Chops	13. 2	28. 6	......	. 32	1, 135	150	325	......
Leg	14. 9	14. 9	......	. 50	2, 270	338	338	......
Total	......	......	......	. 82	3, 405	488	663	......
Pork:								
Sparerib	14. 1	25. 6	......	. 62	3, 175	448	813	......
Ham	13. 3	33. 4	......	. 15	340	45	114	......
Ham, cooked	18. 2	37. 0	......	. 30	1, 360	248	503	......
Salt pork	1. 8	87. 2	......	. 02	115	2	100	......
Total	......	......	......	1. 09	4, 990	743	1, 530	......
Poultry, chicken	14. 8	1. 1	......	. 42	2, 380	352	26	......
Fish, etc.:								
Codfish, fresh, sections	16. 9	. 5	......	. 10	905	153	5	......
Haddock	8. 2	. 2	......	. 35	2, 270	186	5	......
Bluefish	9. 8	. 6	......	. 30	2, 040	200	12	......
Chowder, clam	1. 8	. 8	6. 7	. 15	1, 360	24	11	91
Total	......	......	......	. 90	6, 575	563	33	91
Eggs	13. 1	9. 5	......	. 05	225	29	21	......
Butter	......	82. 4	......	. 47	905	......	746	......
Milk	3. 3	4. 0	5. 0	. 76	10, 430	344	417	522
Condensed milk	8. 2	7. 1	52. 3	. 04	180	15	13	94
Total animal food	......	......	......	6. 75	37, 030	3, 886	4, 527	707
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Bread	9. 5	1. 2	52. 8	1. 27	14, 585	1, 385	175	7, 700
Buns, sugar	8. 0	8. 1	51. 9	. 43	4, 825	386	391	2, 504
Cake	7. 0	8. 1	63. 4	. 22	1, 135	79	92	720
Sugar	......	......	100. 0	. 08	680	......	......	680
Total	......	......	......	2. 00	21, 225	1, 850	658	11, 604
Vegetables:								
Cabbage	1. 8	. 3	4. 9	. 04	565	10	2	28
Corn, green, without cob	2. 8	1. 1	14. 1	. 13	480	13	5	68
Onions	1. 5	. 4	8. 9	. 06	795	12	3	71
Muskmelon	. 3	......	4. 6	. 04	455	1	......	21
Potatoes	1. 8	. 1	15. 3	. 60	13, 610	245	14	2, 082
Sweet potatoes	1. 5	. 6	23. 1	. 04	905	14	5	209
Tomatoes, fresh	. 8	. 4	3. 9	. 42	9, 525	76	38	372
Total	......	......	......	1. 33	26, 335	371	67	2, 851
Total vegetable food	......	......	......	3. 33	47, 560	2, 221	725	14, 455
Total food	......	......	......	10. 08	84, 590	6, 107	5, 252	15, 162

TABLE 61.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 96.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	258	42	40	....	13.4	30.1	33.2	....	30.0
Pork, lard, etc	113	17	35	....	5.9	12.2	29.1	....	10.8
Poultry	54	8	1	....	2.8	5.8	.5	....	4.2
Fish, etc	150	13	1	2	7.8	9.2	.6	0.6	8.9
Eggs	5	1	....	....	.3	.5	.4	....	.5
Butter	21	....	17	....	1.1	....	14.2	....	4.7
Milk	237	8	9	12	12.3	5.6	7.9	3.4	7.5
Condensed milk	4	....	....	2	.2	.2	.3	.6	.4
Total animal food	842	89	103	16	43.8	63.6	86.2	4.6	67.0
Cereals, sugars, starches	482	42	15	264	25.1	30.3	12.5	76.6	19.8
Vegetables	599	8	1	65	31.1	6.1	1.3	18.8	13.2
Total vegetable food	1,081	50	16	329	56.2	36.4	13.8	95.4	33.0
Total food	1,923	139	119	345	100.0	100.0	100.0	100.0	100.0

The waste was not saved in this dietary. The cost and fuel value of the food purchased per man per day were as follows:

Cost and fuel value of food purchased per man per day.

	Cost.	Fuel value.
	Cents.	*Calories.*
Animal food	15	1,385
Vegetable food	8	1,705
Total	23	3,090

DIETARY STUDY OF A PORTER'S FAMILY (No. 97).

The study began August 21, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man 38 years old	23
Woman 47 years old (30 meals × 0.8 meal of man), equivalent to	24
Boy 19 years old	24
Girl 17 years old (30 meals × 0.7 meal of man), equivalent to	21
Boy 10 years old (30 meals × 0.6 meal of man), equivalent to	18
Total number of meals taken equivalent to	110

Equivalent to 1 man 37 days.

Table 62.—*Food materials used in dietary study No. 97.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Pr. ct.*	*Pr. ct.*	*Pr. ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Chopped meat	19.7	13.5		$0.24	1,135	224	153	
Sirloin steak	15.9	17.6		.56	1,815	289	319	
Soup, ready-made	4.5	3.5	5.1	.10	905	41	32	46
Total				.90	3.855	554	504	46
Mutton chops	13.2	28.6		1.18	4.420	583	1,264	
Pork:								
Pig's head	3.8	13.9		.12	905	34	126	
Salt pork	1.8	87.2		.05	225	4	196	
Total				.17	1,130	38	322	
Poultry, chicken	14.8	1.1		1.10	4,310	638	47	
Fish, etc.:								
Codfish	16.0	.4		.12	680	109	3	
Halibut	15.1	4.4		.10	455	69	20	
Clams	6.5	.4	4.2	.20	905	59	3	38
Total				.42	2,040	237	26	38
Eggs	13.1	9.5		.95	4,265	559	405	
Butter		82.4		.72	1,360		1,121	
Cheese	26.0	34.2	2.3	.10	225	59	77	5
Milk	3.3	4.0	5.0	1.30	22,680	748	907	1,134
Condensed milk	8.2	7.1	52.3	.04	225	18	16	118
Total animal food				6.88	44,510	3,434	4,689	1,341
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Oatmeal	15.6	7.3	68.0	.30	2,720	424	199	1,849
Rice	7.8	.4	79.0	.04	225	17	1	178
Bread	9.5	1.2	52.8	1.01	7,450	708	89	3,933
Cake, coffee	8.6	6.6	53.9	.20	1,270	109	84	684
Cake, sugar	4.3	9.4	66.2	.15	1,135	49	107	751
Crackers, soda	10.3	9.4	70.5	.05	225	23	21	159
Sugar			100.0	.50	4,990			4,990
Total				2.25	18,015	1,330	501	12,544
Vegetables:								
Beans, butter, dry	22.3	1.8	59.1	.05	905	202	16	535
Beets	1.3	.1	7.7	.05	1.135	15	1	87
Cabbage	1.8	.3	4.9	.09	1,045	19	3	51
Corn, green, without cob	2.8	1.1	14.1	.07	180	5	2	25
Onions	1.5	.4	8.9	.03	365	6	1	32
Potatoes	1.8	.1	15.3	.40	9,070	163	9	1,387
Tomatoes, fresh	.8	.4	3.9	.40	8,620	69	34	336
Soup greens	3.8	.9	8.9	.06	455	17	4	40
Total				1.15	21,775	496	70	2,493
Fruits, nuts, etc., peaches	1.0		12.6	.05	455	5		57
Total vegetable food				3.45	40,245	1,831	571	15,094
Total food				10.33	84.755	5,265	5,260	16,435

TABLE 63.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 97.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	224	31	48	1	9.8	21.6	33.6	0.3	20.1
Pork, lard, etc	30	1	9	....	1.3	.7	6.1	....	1.6
Poultry	116	17	1	....	5.1	12.1	.9	....	10.6
Fish, etc	55	6	1	1	2.4	4.5	.5	.2	4.1
Eggs	115	15	11	....	5.0	10.6	7.7	....	9.2
Butter	37	....	30	....	1.6	....	21.3	....	7.0
Cheese	6	2	2	....	.3	1.1	1.5	....	1.0
Milk	613	20	25	31	26.7	14.2	17.2	6.9	12.6
Condensed milk	6	1	....	3	.3	.4	.3	.7	.4
Total animal food	1,202	93	127	36	52.5	65.2	89.1	8.1	66.6
Cereals, sugars, starches	487	36	14	339	21.3	25.3	9.5	76.3	21.8
Vegetables	589	13	1	67	25.7	9.4	1.4	15.2	11.1
Fruits	12	....	....	2	.5	.1	....	.4	.5
Total vegetable food	1,088	49	15	408	47.5	34.8	10.9	91.9	33.4
Total food	2,290	142	142	444	100.0	100.0	100.0	100.0	100.0

The waste was not saved in this dietary. The cost and fuel value of the food purchased per man per day were as follows:

Cost and fuel value of food purchased per man per day.

	Cost.	Fuel value.
	Cents.	*Calories.*
Animal food	19	1,710
Vegetable food	9	2,010
Total	28	3,720

DIETARY STUDY OF A PRINTER'S FAMILY (No. 106).

The study began August 2, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man 44 years old	30
Woman 38 years old (30 meals × 0.8 meal of man), equivalent to	24
Girl 19 years old (30 meals × 0.8 meal of man), equivalent to	24
Boy 15 years old (30 meals × 0.8 meal of man), equivalent to	24
Girl 13 years old (30 meals × 0.6 meal of man), equivalent to	18
Boy 9 years old (30 meals × 0.5 meal of man), equivalent to	15
Girl 2 years old (30 meals × 0.4 meal of man), equivalent to	12
Total number of meals taken equivalent to	147

Equivalent to 1 man 49 days.

TABLE 64.—*Food materials used in dietary study No. 106.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Round	18.1	12.6	......	$0.45	1,590	288	200	......
Roast	25.0	14.8	......	.20	455	114	67	......
Sirloin	15.9	17.6	......	.25	1,020	162	180	......
Soup meat	12.3	7.3	......	.48	3,630	446	265	......
Steak	18.1	12.6	......	.18	905	164	114	......
Liver	21.6	5.4	1.8	.08	455	98	25	8
Corned, cooked	28.5	14.0	......	.15	225	64	32	......
Corned	14.2	22.8	......	.35	2,270	322	518	......
Total	......	......	......	2.14	10,550	1,658	1,401	8
Lamb chops	15.0	24.1	......	.61	2,040	306	492	......
Mutton, stew meat	11.7	17.6	......	.24	1,815	212	319	......
Pork:								
Chops	14.1	25.6	......	.31	1,135	160	290	......
Roast	14.1	25.6	......	.30	1,475	208	378	......
Ham	13.3	33.4	......	.30	680	90	227	......
Bacon	9.2	61.8	......	.22	455	42	281	......
Total	......	......	......	1.13	3,745	500	1,176	......
Eggs	13.1	9.5	......	.70	3,175	416	302	......
Butter	......	82.4	......	.88	1,475	......	1,215	......
Cheese	26.0	34.2	2.3	.10	455	118	156	10
Milk	3.3	4.0	5.0	.56	8,845	292	354	442
Condensed milk	8.2	7.1	52.3	.14	905	74	64	473
Total animal food	......	......	......	6.50	33,005	3,576	5,479	933
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Oatmeal	15.6	7.3	68.0	.05	455	71	33	309
Bread, rye	10.1	.7	55.9	.90	8,165	824	57	4,564
Bread, white	9.5	1.2	52.8	.10	1,080	103	13	570
Rolls, bread	10.2	5.2	60.4	.62	4,140	422	215	2,500
Rolls, milk	8.5	9.6	54.4	.10	680	58	65	370
Cake	7.0	8.1	63.4	.05	375	26	30	238
Macaroni	11.7	1.6	72.9	.10	295	35	5	215
Sugar	......	......	100.0	.43	3,855	......	......	3,855
Molasses	2.7	......	68.0	.03	180	5	......	122
Cocoa	12.5	47.1	26.8	.20	150	19	71	40
Total	......	......	......	2.58	19,375	1,563	489	12,783
Vegetables:								
Cabbage	1.8	.3	4.9	.05	595	11	2	29
Corn, canned	2.8	1.3	19.3	.10	455	13	6	88
Corn, green	2.8	1.1	14.1	.57	4,080	114	45	575
Cucumbers	.7	.2	2.1	.05	680	5	1	14
Greens, soup	3.8	.9	8.9	.06	455	17	4	40
Onions	1.5	.4	8.9	.04	340	5	1	30
Potatoes	1.8	.1	15.3	.52	13,155	237	13	2,013
Tomatoes	.8	.4	3.9	.17	3,855	31	15	150
Total	......	......	......	1.56	23,615	433	87	2,939
Fruits, nuts, etc.:								
Apples	.4	.4	12.4	.20	4,535	18	18	562
Pears	.5	.6	10.6	.10	1,815	9	11	192
Total	......	......	......	.30	6,350	27	29	754
Total vegetable food	......	......	......	4.44	49,340	2,023	605	16,476
Total food	......	......	......	10.94	82,345	5,599	6,084	17,409

Table 65.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 106.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	294	44	45	....	17.3	38.4	36.3	....	27.3
Pork, lard, etc	76	10	24	....	4.5	8.8	19.3	....	10.3
Eggs	65	9	6	....	3.8	7.3	5.0	....	6.4
Butter	30	....	25	....	1.8	....	19.9	....	8.1
Cheese	9	2	3	....	.6	2.1	2.6	....	.9
Milk	181	6	7	9	10.6	5.2	5.8	2.5	5.1
Condensed milk	19	2	2	10	1.1	1.3	1.0	2.7	1.3
Total animal food	674	73	112	19	39.7	63.1	89.9	5.2	59.4
Cereals, sugars, starches	413	34	10	270	24.3	28.8	8.2	74.1	23.6
Vegetables	482	9	2	60	28.4	7.6	1.4	16.5	14.3
Fruits	129	....	....	15	7.6	.5	.5	4.2	2.7
Total vegetable food	1,024	43	12	345	60.3	36.9	10.1	94.8	40.6
Total food	1,698	116	124	364	100.0	100.0	100.0	100.0	100.0

The waste was not saved in this dietary. The cost and fuel value of the food purchased per man per day were as follows:

Cost and fuel value of food purchased per man per day.

	Cost.	Fuel value.
	Cents.	*Calories.*
Animal food	13	1,420
Vegetable food	9	1,700
Total	22	3,120

DIETARY STUDY OF A TRUCKMAN'S FAMILY (No. 107).

The study began August 2, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man 31 years old	27
Woman 27 years old (30 meals × 0.8 meal of man), equivalent to	24
Boy 9 years old (9 meals × 0.5 meal of man), equivalent to	5
Boy 5 years old (30 meals × 0.4 meal of man), equivalent to	12
Boy 3 years old (30 meals × 0.4 meal of man), equivalent to	12
Woman 75 years old (9 meals × 0.8 meal of man), equivalent to	7
Total number of meals taken equivalent to	87

Equivalent to 1 man 29 days.

TABLE 66.—*Food materials used in dietary study No. 107.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Round	18.1	12.6	....	$0.48	2,270	411	286	....
Corned	14.2	22.8	....	.42	3,175	451	724	....
Tripe	10.9	1.2	0.3	.10	905	99	11	3
Total	....	....	....	1.00	6,350	961	1,021	3
Lamb chops	15.0	24.1	....	.09	455	68	110	....
Mutton, shoulder	13.5	15.6	....	.27	2,040	275	318	....
Pork:								
Ham	13.3	33.4	....	.14	565	75	189	....
Lard	....	100.0	....	.04	225	....	225	....
Total	....	....	....	.18	790	75	414	....
Fish, etc.:								
Mackerel, fresh	11.4	3.5	....	.20	905	103	32	....
Sardines (1 box)	25.3	12.7	....	.04	565	143	72	....
Codfish, salt	16.0	.4	....	.10	455	73	2	....
Total	....	....	....	.34	1,925	319	106	....
Eggs	13.1	9.5	....	.20	905	119	86	....
Butter	....	82.4	....	.72	1,360	....	1,120	....
Cheese	26.0	34.2	2.3	.09	225	59	77	5
Milk	3.3	4.0	5.0	.17	2,720	90	109	136
Condensed milk	8.2	7.1	52.3	.44	2,495	205	177	1,305
Total animal food	....	....	....	3.50	19,265	2,171	3,538	1,449
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Oatmeal	15.6	7.3	68.0	.10	905	141	66	615
Rice	7.8	.4	79.0	.12	1,135	88	5	897
Bread, wheat	9.5	1.2	52.8	.95	11,870	1,128	142	6,266
Buns, sugar	8.0	8.1	51.9	.05	340	27	28	176
Cookies	6.8	8.9	75.3	.05	225	15	20	169
Crackers, soda	10.3	9.4	70.5	.12	680	70	64	479
Sugar	....	....	100.0	.42	4,080	....	....	4,080
Total	....	....	....	1.81	19,235	1,469	325	12,682
Vegetables:								
Beans, dry	22.3	1.8	59.1	.06	455	101	8	269
Beans, string	2.2	.4	9.4	.05	400	9	2	37
Cabbage	1.8	.3	4.9	.04	595	11	2	29
Corn, green	2.8	1.1	14.1	.31	4,080	114	45	575
Onions	1.5	.4	8.9	.10	905	14	4	80
Potatoes	1.8	.1	15.3	.32	7,260	131	7	1,110
Tomatoes, fresh	.8	.4	3.9	.10	2,270	18	9	89
Total	....	....	....	.98	15,965	398	77	2,189
Fruits, nuts, etc.:								
Prunes, dried	2.0	.7	58.6	.05	455	9	3	267
Raisins	2.5	4.7	74.7	.06	455	11	21	340
Total	....	....	....	.11	910	20	24	607
Total vegetable food	....	....	....	2.90	36,110	1,887	426	15,478
Total food	....	....	....	6.40	55,375	4,058	3,964	16,927

TABLE 67.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 107.*

Kind of food material.	Weights.				Percentages of total foods.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	305	45	50	....	15.8	32.9	37.0	....	20.9
Pork, lard, etc	27	3	14	....	1.4	1.9	10.6	....	2.8
Fish, etc	51	7	2	....	2.7	5.2	1.3	....	5.2
Eggs	31	4	3	....	1.6	3.0	2.2	....	3.1
Butter	47	....	39	....	2.4	....	28.6	....	11.1
Cheese	8	2	3	....	.4	1.5	1.9	....	1.4
Milk	94	3	3	5	4.9	2.3	2.8	.8	2.6
Condensed milk	86	7	6	45	4.5	5.2	4.5	7.6	6.7
Total animal food	649	71	120	50	33.7	52.0	88.9	8.4	53.8
Cereals, sugars, starches	663	50	11	437	34.5	37.1	8.3	73.5	27.9
Vegetables	551	14	3	76	28.6	10.1	2.0	12.7	15.1
Fruits	63	1	1	32	3.2	.8	.8	5.4	3.2
Total vegetable food	1,277	65	15	545	66.3	48.0	11.1	91.6	46.2
Total food	1,926	136	135	595	100.0	100.0	100.0	100.0	100.0

The waste was not saved in this dietary. The cost and fuel value of the food purchased per man per day were as follows:

Cost and fuel value of food purchased per man per day.

	Cost.	Fuel value.
	Cents.	*Calories.*
Animal food	12	1,610
Vegetable food	10	2,640
Total	22	4,250

DIETARY STUDY OF CARETAKERS IN A DAY NURSERY (No. 108).

The study began December 3, 1895, and continued 10 days.

There were 8 women from 16 to 50 years of age.

The number of meals taken were (240 meals × 0.8 meal of man) equivalent to 192 meals.

Equivalent to 1 man 64 days.

Remarks.—The women were of average size, all strong and healthy.

TABLE 68.—*Food materials used in dietary study No. 108.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Rib	13.4	21.3	......	$0.60	2,270	304	483	......
Round	18.1	12.6	......	.78	2,920	528	368	......
Rump, no bone	16.8	25.6	......	.06	455	76	117	......
Shank	9.1	5.3	......	.24	1,815	165	96	......
Sirloin	15.9	17.6	......	.42	1,590	253	280	......
Liver	21.6	5.4	1.8	.24	1,815	392	98	33
Corned beef	14.2	22.8	......	1.14	4,930	700	1,124	......
Suet	4.8	79.9	......	......	480	23	384	......
Total	......	......	......	3.48	16,275	2,441	2,950	33
Lamb:								
Loin, no bone	17.6	28.3	......	.72	2.610	459	739	......
Shoulder, no bone	17.5	29.7	......	.36	2,040	357	606	......
Total	......	......	......	1.08	4,650	816	1,345	......
Pork:								
Loin	14.1	25.6	......	.56	2.155	304	552	......
Bacon	9.2	61.8	......	.40	905	83	559	......
Lard	......	100.0	......	.09	515	......	515	......
Total	......	......	......	1.05	3,575	387	1,626	......
Poultry, chicken	14.8	1.1	......	.60	1,815	269	20	......
Fish:								
Herring, canned	18.9	7.1	......	.20	455	86	32	......
Cod, salt, boned	22.2	.3	......	.10	680	151	2	......
Salmon, canned	20.7	10.8	1.2	.15	455	94	49	6
Total	......	......	......	.45	1,590	331	83	6
Eggs	13.1	9.5	......	.54	1,150	151	109	......
Butter	......	82.4	......	2.02	2,895	......	2,385	......
Milk	3.3	4.0	5.0	1.47	21,960	725	878	1.098
Total animal food	......	......	......	10.69	53,910	5,120	9,396	1,137
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Flour, wheat	11.3	1.1	74.6	.14	2.840	321	31	2,118
Flour, prepared	10.1	1.2	74.3	.04	455	46	5	338
Oatmeal	15.6	7.3	68.0	.11	2.040	318	149	1.387
Bread	9.5	1.2	52.8	1.20	11,770	1.118	141	6,214
Cake	7.0	8.1	63.4	.50	2.215	155	180	1,404
Cookies	6.8	8.9	75.3	.08	460	31	41	346
Pie, apple	3.3	9.8	41.7	.04	765	25	75	319
Sugar	......	......	100.0	.64	5,560	......	......	5,560
Sirup	......	......	72.0	.05	200	......	......	144
Sago	.4	.3	87.5	.01	140	1	......	122
Total	......	......	......	2.81	26.445	2.015	622	17,952
Vegetables:								
Cabbage, edible portion	2.1	.4	5.8	.12	6,580	138	26	382
Onions	1.5	.4	8.9	.03	205	3	1	18
Potatoes, pared	2.1	.1	18.0	.75	18.495	388	19	3,329
Sweet potatoes, pared	1.8	.7	27.1	.11	2,235	40	16	606
Tomatoes	.8	.4	3.9	.06	455	3	2	18
Turnips	1.4	.2	8.7	.07	3.575	50	7	311
Total	......	......	......	1.14	31.545	622	71	4.664
Fruits, nuts, etc.:								
Apples, whole	.4	.4	12.4	.15	5.250	21	21	651
Apples, flesh	.5	.5	16.6	.13	4,765	24	24	791
Total	......	......	......	.28	10,015	45	45	1,442
Total vegetable food	......	......	......	4.23	68,005	2,682	738	24,058
Total food	......	......	......	14.92	121,915	7,802	10,134	25,195

TABLE 69.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 108.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton..	327	51	67	1	17.2	41.8	42.4	0.1	30.6
Pork, lard, etc...........	56	6	26	....	2.9	5.0	16.0	....	7.0
Poultry..................	28	4	....	....	1.5	3.4	.2	....	4.0
Fish, etc................	25	5	1	....	1.3	4.2	.8	....	3.0
Eggs.....................	18	3	2	....	.9	1.9	1.1	....	3.6
Butter...................	45	....	37	....	2.4	....	23.5	....	13.6
Milk.....................	343	11	14	17	18.0	9.3	8.7	4.4	9.9
Total animal food.	842	80	147	18	44.2	65.6	92.7	4.5	71.7
Cereals, sugars, starches	413	31	9	280	21.7	25.8	6.1	71.3	18.8
Vegetables...............	493	10	1	73	25.9	8.0	.7	18.5	7.6
Fruits...................	157	1	1	23	8.2	.6	.5	5.7	1.9
Total vegetable food............	1,063	42	11	376	55.8	34.4	7.3	95.5	28.3
Total food........	1,905	122	158	394	100.0	100.0	100.0	100.0	100.0

The waste was not saved in this dietary. The cost and fuel value of the food purchased per man per day were as follows:

Cost and fuel value of food purchased per man per day.

	Cost.	Fuel value.
	Cents.	*Calories.*
Animal food..	17	1,770
Vegetable food...	6	1,815
Total..	23	3,585

DIETARY STUDY OF A BUILDER'S FAMILY (No. 109).

The study began November 23, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows

	Meals.
Man 40 years old..	29
Woman 34 years old (30 meals × 0.8 meal of man), equivalent to...	24
Total number of meals taken equivalent to..................	53

Equivalent to 1 man 18 days.

Remarks.—The husband, a Scotchman, weighed 270 pounds. The wife, an American, weighed 170 pounds. Same family as that of dietary No. 147.

Table 70.—*Food materials used in dietary study No. 109.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Sirloin, top of	12.9	42.3		$0.15	455	59	192	
Soup meat, no bone	19.8	11.5		.01	115	23	13	
Suet	4.8	79.9			115	5	92	
Total				.16	685	87	297	
Lamb:								
Leg, no bone	18.5	16.5		.27	680	126	112	
Loin	15.0	24.1		.10	225	34	54	
Shoulder	14.0	23.6		.38	1,925	270	454	
Total				.75	2,830	430	620	
Pork:								
Chops, no bone	16.8	30.3		.10	345	58	105	
Loin	14.1	25.6		.22	740	104	190	
Ham, no bone	15.5	39.1		.18	225	35	88	
Salt pork	1.8	87.2		.16	455	8	397	
Lard		100.0		.02	60		60	
Total				.68	1,825	205	840	
Poultry, turkey	15.7	18.4		1.00	2,155	338	397	
Fish:								
Bluefish, no bone	19.0	1.2		.27	1,020	194	12	
Salmon, canned	20.7	10.8	1.2	.12	455	94	49	6
Total				.39	1,475	288	61	6
Eggs, without shell	14.9	10.6		.40	905	135	96	
Butter		82.4		.92	1,530		1,261	
Cheese, cottage	37.1	17.7		.05	455	169	80	
Milk	3.3	4.0	5.0	1.01	15,145	500	606	757
Cream	2.5	18.5	4.5	.10	590	15	109	26
Total animal food				5.46	27,595	2,167	4,367	789
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Barley	9.3	1.0	77.6	.20	1,590	148	16	1,234
Oatmeal	15.6	7.3	68.0	.12	1,415	221	103	962
Rice	7.8	.4	79.0	.10	905	71	3	715
Flour	11.3	1.1	74.6	.28	3,035	343	33	2,264
Bread, baker's	9.5	1.2	52.8	.12	1,395	133	17	736
Bread, graham	8.5	1.8	55.9	.10	1,135	96	20	635
Crackers	10.3	9.4	70.5	.08	455	47	43	321
Sugar			100.0	.21	2,270			2,270
Tapioca	.4	.3	87.5	.04	225	1		197
Total				1.25	12,425	1,060	235	9,334
Vegetables:								
Beans, dried	22.3	1.8	59.1	.02	200	45	3	118
Cabbage	1.8	.3	4.9	.03	625	11	2	31
Carrots and leeks	.9	.4	7.2	.05	365	3	2	26
Celery	1.4	.1	3.0	.12	655	9	1	20
Onions	1.5	.4	8.9	.08	2,255	34	9	201
Peas, dried	24.1	1.1	61.5	.02	285	69	3	175
Potatoes	1.8	.1	15.3	.21	9,150	165	9	1,400
Total				.53	13,535	336	29	1.971
Fruit, nuts, etc.:								
Apples	.4	.4	12.4	.36	4,090	17	16	507
Cranberries	.5	.7	10.1	.06	225	1	1	23
Jelly, grape	1.1		77.1	.05	340	4		262
Total				.47	4,655	22	17	792
Total vegetable food				2.25	30,615	1.418	281	12,097
Total food				7.71	58.210	3,585	4,648	12,886

TABLE 71.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 109.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	195	29	51	....	6.3	14.1	19.3	....	12.0
Pork, lard, etc	101	11	47	....	3.3	5.6	17.7	....	8.9
Poultry	120	25	27	....	3.8	12.1	10.4	....	13.1
Fish, etc	82	16	3	....	2.7	7.8	1.3	....	5.1
Eggs	50	7	5	....	1.6	3.7	2.0	....	5.3
Butter	85	....	70	....	2.8	....	26.6	....	12.1
Cheese	25	9	5	....	.8	4.6	1.7	....	.7
Milk	842	28	34	42	27.2	13.6	12.8	5.9	13.2
Cream	33	1	6	2	1.1	.4	2.3	.2	1.3
Total animal food	1,533	126	248	44	49.6	61.9	94.1	6.1	71.7
Cereals, sugars, starches	690	59	13	519	22.3	28.8	4.9	72.7	15.2
Vegetables	637	18	2	102	20.6	8.7	.6	14.4	6.9
Fruits	230	1	1	49	7.5	.6	.4	6.8	6.2
Total vegetable food	1,557	78	16	670	50.4	38.1	5.9	93.9	28.3
Total food	3,090	204	264	714	100.0	100.0	100.0	100.0	100.0

The waste was not saved in this dietary. The cost and fuel value of the food purchased per man per day were as follows:

Cost and fuel value of food purchased per man per day.

	Cost.	Fuel value.
	Cents.	*Calories.*
Animal food	30	3,005
Vegetable food	12	3,215
Total	42	6,220

DIETARY STUDY OF A BUILDER'S FAMILY (No. 147).

The study began March 18, 1896, and continued 30 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man 40 years old	86
Woman 30 years old (83 meals × 0.8 meal of man) equivalent to	66
Visitors, equivalent to	6
Total number of meals taken equivalent to	158

Equivalent to 1 man 53 days.

Remarks.—Same family as that of dietary No. 109.

Table 72.—*Food materials used in dietary study No. 147.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Sirloin steak	15.9	17.6	......	$1.38	3,855	613	678	......
Rib roast	13.4	21.3	......	.87	2,750	368	586	......
Shoulder	16.1	9.8	......	.42	1,645	265	161	......
Soup meat, free from bone	20.8	6.4	......	.05	285	59	18	......
Corned beef	14.2	22.8	......	.28	2,240	318	511	......
Total	......	......	......	3.00	10,775	1,623	1,954	......
Mutton:								
Shoulder	13.5	15.6	......	1.33	7,910	1,068	1,234	......
Leg, free from bone	18.2	18.0	......	.34	770	140	139	......
Total	......	......	......	1.67	8,680	1,208	1,373	......
Pork, lard	......	100.0	......	.10	565	......	565	......
Poultry, chicken	14.8	1.1	......	.46	1,105	164	12	......
Fish:								
Flounder, edible portion	13.9	.6	......	.40	1,135	158	7	......
Salt cod, edible portion	21.4	.4	......	.10	395	84	2	......
Salmon, canned	20.7	10.8	1.2	.60	2,270	470	245	27
Total	......	......	......	1.10	3,800	712	254	27
Eggs	13.1	9.5	......	1.15	5,060	663	481	......
Butter	......	82.4	......	2.66	4,705	......	3,877	......
Milk	3.3	4.0	5.0	2.82	40,800	1,346	1,632	2,040
Cream	2.5	18.5	4.5	1.00	2,665	67	493	120
Total animal food	......	......	......	13.96	78,155	5,783	10,641	2,187
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Barley	9.3	1.0	77.6	.06	540	50	6	419
Corn meal	8.9	2.2	75.1	.03	455	40	10	342
Hominy	8.2	.6	78.9	.01	140	11	1	111
Farina	11.1	1.4	77.6	.20	905	100	13	702
Flour	11.3	1.1	74.6	.45	10,090	1,140	111	7,527
Oatmeal	15.6	7.3	68.0	.20	2,720	424	199	1,849
Rice	7.8	.4	79.0	.15	905	71	3	715
Bread, wheat	9.5	1.2	52.8	.49	5,990	569	72	3,163
Bread, graham	8.5	1.8	55.9	.20	2,070	176	37	1,157
Bread, rye	10.1	.7	55.9	.05	625	63	4	350
Rolls	9.6	5.2	57.3	.10	770	74	40	441
Cake	7.0	8.1	63.4	.62	1,900	133	154	1,204
Crackers, soda	10.3	9.4	70.5	.10	905	93	85	638
Crullers	6.6	21.9	52.6	.05	340	22	75	179
Sugar	......	......	100.0	.80	7,145	......	......	7,145
Tapioca	.4	.3	87.5	.10	455	2	1	398
Total	......	......	......	3.61	35,955	2,968	811	26,340
Vegetables:								
Beans, Lima, canned	4.0	.3	14.6	.15	625	25	2	91
Cabbage	1.8	.3	4.9	.05	1,075	19	3	53
Leeks, edible portion	1.2	.5	5.8	.08	225	3	1	13
Lettuce, edible portion	1.3	.4	3.3	.58	1,105	14	5	36
Onions, edible portion	1.7	.4	9.9	.38	6,890	117	28	682
Peas, canned	3.6	.2	9.8	.15	225	8	1	22
Peas, dried	24.1	1.1	61.5	.07	680	164	8	418
Potatoes (22 per cent refuse)	2.1	.1	18.0	.92	34,425	723	34	6,195
Rhubarb (14.5 per cent refuse)	.6	.7	3.6	.33	1,360	8	10	49
Tomatoes	.8	.4	3.9	.10	225	2	1	9
Tomatoes, canned	1.2	.2	4.0	.16	1,930	23	4	77
Total	......	......	......	2.97	48,765	1,106	97	7,645
Fruits, nuts, etc.:								
Bananas (33 per cent refuse)	1.2	.8	22.9	.18	725	9	6	166
Grape jelly	1.1	......	77.1	.12	1,245	14	......	960
Lemons	.7	.6	5.8	.03	115	1	......	7
Oranges (21.5 per cent refuse)	.8	.6	9.7	.39	1,560	13	9	151
Pears, pickled	.5	.6	10.6	.15	965	5	6	102
Prunes, edible portion	2.4	.8	68.9	.10	300	7	2	207
Strawberry preserves	.8	2.1	56.4	.15	990	8	21	558
Total	......	......	......	1.12	5,900	57	44	2,151
Total vegetable food	......	......	......	7.70	90,620	4,131	952	36,136
Total food	......	......	......	21.66	168,775	9,914	11,593	38,323

TABLE 73.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 147.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	367	53	63	....	11.5	28.5	28.7	....	21.6
Pork, lard, etc	11	....	11	....	.3	....	4.9	....	.5
Poultry	21	3	....	....	.7	1.6	.1	....	2.1
Fish, etc	72	14	5	....	2.2	7.2	2.2	0.1	5.1
Eggs	95	13	9	....	3.0	6.7	4.1	....	5.3
Butter	89	....	73	....	2.8	....	33.4	....	12.3
Milk	769	25	31	39	24.2	13.6	14.1	5.3	13.0
Cream	50	1	9	2	1.6	.7	4.3	.3	4.6
Total animal food	1.474	109	201	41	46.3	58.3	91.8	5.7	64.5
Cereals, sugars, starches	679	56	15	497	21.3	29.9	7.0	68.7	16.7
Vegetables	920	21	2	144	28.9	11.2	.8	20.0	13.7
Fruits	111	1	1	41	3.5	.6	.4	5.6	5.1
Total vegetable food	1,710	78	18	682	53.7	41.7	8.2	94.3	35.5
Total food	3,184	187	219	723	100.0	100.0	100.0	100.0	100.0

The waste was not saved in this dietary. The cost and fuel value of the food purchased per man per day were as follows:

Cost and fuel value of food purchased per man per day.

	Cost.	Fuel value.
	Cents.	*Calories.*
Animal food	26	2,485
Vegetable food	15	3,285
Total	41	5,770

DIETARY STUDY OF A SALESMAN'S FAMILY (No. 110).

The study began October 15, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man 76 years old	23
Woman 43 years old (30 meals × 0.8 meal of man), equivalent to	24
Girl 16 years old (30 meals × 0.7 meal of man), equivalent to	21
Girl 12 years old (30 meals × 0.6 meal of man), equivalent to	18
Total number of meals taken, equivalent to	86

Equivalent to 1 man 29 days.

Table 74.—*Food materials used in dietary study No. 110.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Liver	21.6	5.4	1.8	$0.07	455	98	25	8
Bologna sausage	18.0	19.7	......	.05	225	41	44	......
Total	......	......	......	.12	680	139	69	8
Veal, breast	15.7	6.2	......	.12	905	142	56	......
Pork:								
Chops	14.1	25.6	......	.12	455	64	116	......
Ham, salted	13.3	33.4	......	.96	3,630	483	1,212	......
Bacon	9.2	61.8	......	.14	455	42	281	......
Total	......	......	......	1.22	4,540	589	1,609	......
Eggs	13.1	9.5	......	.28	1,050	138	100	......
Butter	......	82.4	......	.82	1,475	......	1,215	......
Milk	3.3	4.0	5.0	.60	11,375	375	455	569
Condensed milk	8.2	7.1	52.3	.08	455	37	32	238
Total animal food	......	......	......	3.24	20,480	1,420	3,536	815
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Flour	11.3	1.1	74.6	.26	5,640	637	62	4,207
Rice	7.8	.4	79.0	.02	225	18	1	178
Sugar, granulated	......	......	100.0	.38	3,175	......	......	3,175
Yeast (2 cakes, used with flour)	......	......	......	.04	......	......	......	......
Total	......	......	......	.70	9,040	655	63	7,560
Vegetables:								
Cabbage	1.8	.3	4.9	.06	2,495	45	7	122
Onions	1.5	.4	8.9	.05	680	10	3	60
Potatoes (16.5 per cent refuse)	2.1	.1	18.0	.35	6,720	141	7	1,210
Total	......	......	......	.46	9,895	196	17	1,392
Fruits, nuts, etc.:								
Apples	.4	.4	12.4	.05	570	2	2	71
Prunes	2.0	.7	58.6	.12	400	8	3	234
Total	......	......	......	.17	970	10	5	305
Total vegetable food	......	......	......	1.33	19,905	861	85	9,257
Total food	......	......	......	4.57	40,385	2,281	3,621	10,072

Table 75.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 110.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	55	10	4	....	3.9	12.3	3.4	0.1	5.3
Pork, lard, etc	156	20	56	....	11.2	25.8	44.4	....	26.7
Eggs	36	5	3	....	2.6	6.1	2.8	....	6.1
Butter	51	....	42	....	3.7	....	33.6	....	17.9
Milk	392	13	16	20	28.2	16.5	12.6	5.6	13.1
Condensed milk	16	1	1	8	1.1	1.6	.9	2.4	1.8
Total animal food	706	49	122	28	50.7	62.3	97.7	8.1	70.9
Cereals, sugars, starches	312	23	2	261	22.4	28.7	1.7	75.1	15.3
Vegetables	341	7	1	48	24.5	8.6	.5	13.8	10.1
Fruits	33	....	....	10	2.4	.4	.1	3.0	3.7
Total vegetable food	686	30	3	319	49.3	37.7	2.3	91.9	29.1
Total food	1,392	79	125	347	100.0	100.0	100.0	100.0	100.0

The amount of waste in this dietary was so extremely small, that it amounted to practically nothing, and the figures for food purchased represent also food eaten. The cost and fuel value of the food purchased (and eaten) per man per day were as follows:

Cost and fuel value of food purchased per man per day.

	Cost.	Fuel value.
	Cents.	*Calories.*
Animal food	11	1,450
Vegetable food	5	1,460
Total	16	2,910

DIETARY STUDY OF A TIN ROOFER'S FAMILY (No. 111).

The study began October 27, 1895, and continued 10 days.

The members of the family and number of meals taken were as follows:

	Meals.
Man 31 years old	30
Woman 37 years old (30 meals × 0.8 meal of man), equivalent to	24
Woman 60 years old (30 meals × 0.8 meal of man), equivalent to	24
Girl 6 years old (30 meals × 0.5 meal of man), equivalent to	15
Boy 4 years old (30 meals × 0.4 meal of man), equivalent to	12
Boy 1 year old (30 meals × 0.3 meal of man), equivalent to	9
Male boarder 30 years old	30
Visitors, female (10 meals × 0.8 meal of man), equivalent to	8
Total number of meals taken, equivalent to	152

Equivalent to 1 man 51 days.

TABLE 76.—*Food materials used in dietary study No. 111.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Porterhouse steak	15.9	17.6	......	$0.32	965	153	170	......
Round steak	18.1	12.6	......	.30	905	164	114	......
Tripe	10.9	1.2	0.3	.18	1,360	148	16	4
Total	......	......	......	.80	3,230	465	300	4
Pork:								
Ham, fresh, no bone	18.5	17.7	......	.77	3,175	587	562	......
Ham, smoked	13.3	33.4	......	1.30	4,560	606	1,523	......
Ham, smoked, cooked	24.0	21.0	......	.56	1,190	285	250	......
Salt pork, lean	6.5	59.6	......	.10	455	30	271	......
Pork sausage	12.8	45.4	.8	.10	455	58	206	4
Lard	......	100.0	......	.04	225	......	225	......
Total	......	......	......	2.87	10,060	1,566	3,037	4
Poultry, chicken, no bone	22.8	1.8	......	.72	2,720	620	49	......
Fish, hake, fresh	7.2	.3	......	.50	2,610	188	8	......
Eggs, without shell	14.9	10.6	......	.63	1,590	237	168	......
Butter	......	82.4	......	1.04	1,560	......	1,285	......
Cheese	26.0	34.2	2.3	.31	880	229	301	20
Milk	3.3	4.0	5.0	.36	6,020	198	241	301
Condensed milk	8.2	7.1	52.3	.28	1,415	116	100	740
Total animal food	......	......	......	7.51	30,085	3,619	5,489	1,069
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Barley	9.3	1.0	77.6	.03	225	21	2	175
Flour, wheat	11.3	1.1	74.6	.04	680	77	8	507
Oatmeal	15.6	7.3	68.0	.03	650	106	50	462
Bread	9.5	1.2	52.8	1.25	14,175	1,346	170	7,484

TABLE 76.—*Food materials used in dietary study No. 111*—Continued.

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
VEGETABLE FOOD—continued.								
Cereals, sugar, etc.—Continued.	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Cake, sponge	6.5	9.6	70.3	$0.15	655	43	63	460
Crackers, soda	10.3	9.4	70.5	.03	170	17	16	120
Pie, apple	3.3	9.8	41.7	.05	170	5	17	71
Sugar	......	......	100.0	.47	4,420	....	....	4,420
Total	......	......	......	2.05	21,145	1.615	326	13,699
Vegetables:								
Cabbage (34 per cent refuse)	2.1	.4	5.8	.14	2,520	53	10	146
Carrots, edible portion	1.1	.5	9.0	.01	140	1	1	13
Leeks	1.0	.4	5.0	.01	115	1	....	6
Onions	1.5	.4	8.9	.07	680	10	3	60
Parsley and celery, edible portion	1.4	.1	3.0	.08	370	5	....	11
Parsnips	1.3	.5	12.9	.13	2.015	26	10	260
Potatoes (16 per cent refuse)	2.1	.1	18.0	.31	7,770	163	8	1,398
Turnips, edible portion	1.4	.2	8.7	.01	115	2	....	10
Total	......	......	......	.76	13,725	261	32	1,904
Total vegetable food	......	......	......	2.81	34,870	1,876	358	15.603
Total food	......	......	......	10.32	64.955	5,495	5,847	16.672

TABLE 77.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 111.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	63	9	6	....	5.1	9.2	4.7	....	7.7
Pork, lard, etc	194	26	70	....	15.5	26.3	56.1	....	27.8
Poultry	37	8	1	....	2.9	8.4	.5	....	7.0
Fish, etc	51	4	....	....	4.1	3.7	.1	....	4.9
Eggs	31	5	3	....	2.5	4.7	2.7	....	6.1
Butter	31	......	25	....	2.4	......	20.2	....	10.1
Cheese	17	4	6	....	1.4	4.5	4.7	.1	3.0
Milk	118	4	5	6	9.4	3.9	3.8	1.8	3.5
Condensed milk	28	2	2	15	2.2	2.3	1.6	4.5	2.7
Total animal food	570	62	118	21	45.5	63.0	94.4	6.4	72.8
Cereals, sugars, starches	415	32	6	269	33.1	31.9	5.1	82.2	19.9
Vegetables	269	5	1	37	21.4	5.1	.5	11.4	7.3
Total vegetable food	684	37	7	306	54.5	37.0	5.6	93.6	27.2
Total food	1.254	99	125	327	100.0	100.0	100.0	100.00	100.0

The waste was not saved in this dietary.

The cost and fuel value of the food purchased per man per day were as follows:

Cost and fuel value of food purchased per man per day.

	Cost.	Fuel value.
	Cents.	*Calories.*
Animal food	15	1,440
Vegetable food	5	1,470
Total	20	2,910

DIETARY STUDY OF A TIN ROOFER'S FAMILY (No. 112).

The study began November 8, 1895, and continued 11⅓ days.

The members of the family and number of meals taken were as follows:

	Meals.
Man 35 years old	34
Girl 23 years old (34 meals × 0.8 meal of man), equivalent to	27
Girl 21 years old (34 meals × 0.8 meal of man), equivalent to	27
Girl 19 years old (34 meals × 0.8 meal of man), equivalent to	27
Boy 18 years old	34
Two male boarders 25 to 30 years old	68
Male boarder 60 years old	34
Servant 52 years old (34 meals × 0.8 meal of man), equivalent to	27
Total number of meals taken equivalent to	278

Equivalent to 1 man 93 days.

TABLE 78.—*Food materials used in dietary study No. 112.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Neck	13.9	11.9	......	$0.27	2,040	283	243	......
Rib, no bone	16.9	26.8	......	.80	3,090	523	828	......
Round steak	18.1	12.6	......	1.25	4,650	842	586	......
Rump, corned, no bone	15.3	23.3	......	.64	2,520	386	587	......
Suet	4.8	79.9	......	......	170	8	136	......
Tripe, pickled	10.9	1.2	0.3	.33	2,720	296	33	8
Total	......	......	......	3.29	15,190	2,338	2,413	8
Pork:								
Chops	14.1	25.6	......	.30	1,135	160	291	......
Chops, without bone	16.8	30.3	......	.54	1,330	223	403	......
Ham, smoked	13.3	33.4	......	2.92	10,885	1,447	3,635	......
Total	......	......	......	3.76	13,350	1,830	4,329	......
Fish:								
Cod, fresh	10.6	.2	......	.20	905	96	2	......
Cod, salt	16.0	.4	......	.15	680	109	3	......
Total	......	......	......	.35	1,585	205	5	......
Eggs (11.2 per cent refuse)	14.9	10.6	......	1.25	3,285	490	348	......
Butter	......	82.4	......	1.80	3,200	......	2,637	......
Milk	3.3	4.0	.5	.87	14,235	470	569	712
Total animal food	......	......	......	11.32	50,845	5,333	10,301	720
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Oatmeal	15.6	7.3	68.0	.19	905	141	66	615
Rice	7.8	.4	79.0	.04	230	18	1	182
Bread, rye	10.1	.7	55.9	.20	2,725	275	19	1,523
Bread, white	9.5	1.2	52.8	1.02	14,775	1,403	178	7,801
Sugar	......	......	100.0	.59	5,615	......	......	5,615
Total	......	......	......	2.04	24,250	1,837	264	15,736
Vegetables:								
Cabbage (6 per cent refuse)	2.1	.4	5.8	.24	7,175	151	29	416
Corn, canned	2.8	1.3	19.3	.16	910	25	12	176
Onions	1.5	.4	8.9	.06	905	14	4	80
Peas, canned	3.6	.2	9.8	.18	905	32	2	89
Potatoes (16.6 per cent refuse)	2.1	.1	18.0	.62	21,800	458	22	3,924
Total	......	......	......	1.26	31,695	680	69	4,685
Total vegetable food	......	......	......	3.30	55,945	2,517	333	20,421
Total food	......	......	......	14.62	106,790	7,850	10,634	21,141

TABLE 79.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 112.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food materials.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton	164	25	26	....	14.2	29.8	22.7	....	22.5
Pork, lard, etc	143	20	46	....	12.5	23.3	40.7	....	25.7
Fish, etc	17	2	....	....	1.5	2.6	....	....	2.4
Eggs	35	5	4	....	3.1	6.2	3.3	....	8.5
Butter	35	....	28	....	3.0	....	24.8	....	12.3
Milk	153	5	6	8	13.3	6.0	5.4	3.4	6.0
Total animal food	547	57	110	8	47.6	67.9	96.9	3.4	77.4
Cereals, sugars, starches	260	20	3	169	22.7	23.4	2.5	74.4	14.0
Vegetables	341	7	1	50	29.7	8.7	.6	22.2	8.6
Total vegetable food	601	27	4	219	52.4	32.1	3.1	96.6	22.6
Total food	1,148	84	114	227	100.0	100.0	100.0	100.0	100.0

The amount of waste in this dietary was so extremely small that it amounts to practically nothing, and the figures for food purchased represent also food eaten.

The cost and fuel value of the food purchased (and eaten) per man per day were as follows:

Cost and fuel value of food purchased per man per day.

	Cost.	Fuel value.
	Cents.	*Calories.*
Animal food	12	1,290
Vegetable food	4	1,045
Total	16	2,335

DIETARY STUDY OF CHILDREN UNDER 1 YEAR OF AGE AT A DAY NURSERY (No. 117).

The children received fully two-thirds of their daily food at the day nursery. They were divided into three classes—those about 6 months old, those about 8 months old, and those about 10 months old.

They were fed on milk and rice water. Those 10 months old had also a little bread once a day. The rice water was made by steaming 3 ounces of rice in 1 quart of water for 6 hours.

TABLE 80.—*Food materials used in dietary study No. 117.*

Kind of food material.	Composition.			Weight used.			
	Protein.	Fat.	Carbohydrates.	Total food material.	Protein.	Fat.	Carbohydrates.
CHILDREN BETWEEN 6 AND 8 MONTHS OLD, FED EVERY 3 HOURS, RECEIVING 4 MEALS AT THE NURSERY.							
Each meal:	*Per ct.*	*Per ct.*	*Per ct.*	*Grams.*	*Grams.*	*Grams.*	*Grams.*
Rice water	0.7	....	6.9	75	1	....	5
Milk	3.3	4.0	5.0	85	3	3	4
Sugar	....	....	100.0	3	....	....	3
Total	....	....	....	163	4	3	12
Total at nursery	....	....	....	652	16	12	48

TABLE 80.—*Food materials used in dietary study No. 117*—Continued.

Kind of food material.	Composition.			Weight used.			
	Protein.	Fat.	Carbohydrates.	Total food material.	Protein.	Fat.	Carbohydrates.
CHILDREN BETWEEN 8 AND 10 MONTHS OLD, FED AS ABOVE.							
Each meal:	*Per ct.*	*Per ct.*	*Per ct.*	*Grams.*	*Grams.*	*Grams.*	*Grams.*
Rice water	0.7	....	6.9	75	1	....	5
Milk	3.3	4.0	5.0	115	4	4	6
Sugar	....	....	100.0	5	....	....	5
Total	....	....	....	195	5	4	16
Total at nursery	....	....	....	780	20	16	64
CHILDREN BETWEEN 10 AND 12 MONTHS OLD, FED EVERY 4 HOURS, RECEIVING 3 MEALS AT THE NURSERY.							
Each meal:							
Rice water	.7	....	6.9	40	....	....	3
Milk	3.3	4.0	5.0	115	4	4	6
Bread (*a*)	8.8	2.2	44.6	10	1	....	5
Total	....	....	....	165	5	4	14
Total at nursery	....	....	....	495	15	12	42

a Analyzed in connection with this dietary.

TABLE 81.—*Nutrients and potential energy in food eaten in dietary study No. 117.*

	Protein.	Fat.	Carbohydrates.	Fuel value.
Food eaten per child per day at the nursery: *a*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Age 6 to 8 months	16	12	48	385
Age 8 to 10 months	20	16	64	495
Age 10 to 12 months	15	12	42	345
Average at the nursery	17	13	51	400
Estimated average of total food per child per day (age 6 to 12 months)	25	20	76	600
Same calculated per man per day	83	67	253	2,000

a It is estimated that the children obtained approximately two-thirds of their food at the nursery, the other third being eaten before they came in the morning or after reaching home at night.

DIETARY STUDY OF CHILDREN BETWEEN 1 AND 2 YEARS OF AGE IN A DAY NURSERY (No. 118).

The study began December 3, 1895, and continued 11 days.

One of these days, Sunday, the children did not come.

Fully two-thirds of their daily food was taken at the nursery. The number of children present during the time was equivalent to 1 child 147 days at the nursery.

The children had 9½ pounds of soup made from beef-soup bones during the dietary. No account was made of this in the dietary, as it had little real value as food.

TABLE 82.—*Food materials used in dietary study No. 118.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
	Per ct.	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Butter	......	82.4	......	$0.08	120	....	99	....
Soup	......	......	......	.07	4,250	....	....	....
Milk	3.3	4.0	5.0	2.93	52,740	1,740	2,110	2,637
Hominy	8.2	.6	78.9	.10	730	60	4	576
Rice	7.8	.4	79.0	.15	1,250	98	5	987
Bread, gluten (*a*)	8.8	2.2	44.6	.32	4,380	385	96	1,954
Crackers	10.3	9.4	70.5	.79	4,960	511	466	3,497
Sugar	......	......	100.0	.13	1,120	....	....	1,120
Total food	......	......	......	4.57	69,550	2,794	2,780	10,771

a Analyzed in connection with this dietary.

TABLE 83.—*Nutrients and potential energy in food eaten in dietary study No. 118.*

Kind of food.	Protein.	Fat.	Carbohydrates.	Fuel value.
Food eaten per child per day at the nursery:	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Animal	12	15	18	265
Vegetable	7	4	55	290
Total	19	19	73	555
Estimated total food eaten per child per day:				
Animal	18	22	27	395
Vegetable	11	6	83	435
Total	29	28	110	830
Same calculated per man per day:				
Animal	60	73	90	1,295
Vegetable	37	20	277	1,475
Total	97	93	367	2,770

DIETARY STUDY OF CHILDREN BETWEEN 2 AND 5 YEARS OF AGE IN A DAY NURSERY (No. 119).

The study began December 3, 1895, and continued 11 days.

One of these days (Sunday) the children did not come.

Fully two-thirds of their daily food was taken at the nursery. The number of children present during the time was equivalent to 1 child 637 meals.

Equivalent to one child 212 days.

TABLE 84.—*Food materials used in dietary study No. 119.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Rump, no bone	16.8	25.6	......	$0.40	2,665	448	682	......
Shank	9.1	5.3	......	.42	3,175	289	168	......
Total	......	......	......	.82	5,840	737	850	......
Milk	3.3	4.0	5.0	3.96	64,810	2,139	2,592	3,240
Total animal food	......	......	......	4.78	70,650	2,876	3,442	3,240
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Barley	9.3	1.0	77.6	.04	515	48	5	400
Flour	11.3	1.1	74.6	.04	685	77	8	511
Rice	7.8	.4	79.0	.31	3,040	237	12	2,402
Hominy	8.2	.6	78.9	.22	2,125	174	13	1,677
Bread, gluten (*a*)	8.8	2.2	44.6	.59	16,990	1,495	374	7,577
Cake	7.0	8.1	63.4	.10	905	63	73	574
Crackers	10.3	9.4	70.5	.15	1,105	114	104	779
Pie, pumpkin	4.4	8.4	21.7	.30	1,730	76	145	376
Sugar	......	......	100.0	.28	2,610	......	......	2,610
Total	......	......	......	2.03	29,705	2,284	734	16,906
Vegetables:								
Beans	22.3	1.8	59.1	.36	3,630	810	65	2,145
Carrots	.9	.4	7.2	.02	820	7	3	59
Cabbage	1.8	.3	4.9	.03	800	15	2	39
Celery	1.4	.1	3.0	.01	140	2	......	4
Greens	3.8	.9	8.9	.02	85	3	1	8
Onions	1.5	.4	8.9	.02	170	2	1	15
Parsley and leeks	1.0	.4	5.0	.01	365	4	1	18
Potatoes, pared	2.1	.1	18.0	.33	10,970	231	11	1,974
Total	......	......	......	.80	16,980	1,074	84	4,262
Fruits, nuts, etc.: Apples	.4	.4	12.4	.42	9,275	37	37	1,150
Total vegetable food	......	......	......	3.25	55,960	3,395	855	22,318
Total food	......	......	......	8.03	126,610	6,271	4,297	25,558

a Analyzed in connection with this dietary.

TABLE 85.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 119.*

Kind of food material.	Weights.				Percentages of total food.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER CHILD PER DAY.									
	Grams.	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton..	27	4	4	....	4.6	11.8	19.8	....	10.2
Milk	306	10	12	15	51.2	34.1	60.3	12.7	49.3
Total animal food.	333	14	16	15	55.8	45.9	80.1	12.7	59.5
Cereals, sugars, starches	140	11	4	80	23.5	36.4	17.1	66.1	25.3
Vegetables	80	5	....	20	13.4	17.1	1.9	16.7	10.0
Fruits	44	....	....	5	7.3	.6	.9	4.5	5.2
Total vegetable food	264	16	4	105	44.2	54.1	19.9	87.3	40.5
Total food........	597	30	20	120	100.0	100.0	100.0	100.0	100.0

TABLE 86.—*Nutrients and potential energy in food purchased, rejected, and eaten in dietary study No. 119.*

Kind of food.	Cost.	Weights and fuel value.				Percentages of total food.			
		Protein.	Fat.	Carbohydrates.	Fuel value.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER CHILD PER DAY.									
Food purchased and eaten: (*a*)	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Animal..........	2	14	16	15	265	45.9	80.1	12.7	33.5
Vegetable	2	16	4	105	535	54.1	19.9	87.3	66.5
Total..........	4	30	20	120	800	100.0	100.0	100.0	100.0
PER MAN PER DAY.									
Food purchased: (*a*)									
Animal..........	5	35	40	38	670	....	....	....	....
Vegetable	4	40	10	262	1,330	....	....	....	....
Total..........	9	75	50	300	2,000	....	....	....	....

a No waste.

DIETARY STUDY OF A FAMILY AT A MISSION (NO. 122).

The study began January 6, 1896, and continued 11 days.

The members of the family and number of meals taken were as follows:

	Meals.
3 women, 33 meals each (99 meals × 0.8 meal of man), equivalent to.	79
Woman boarder and visitors (15 meals × 0.8 meal of man), equivalent to	12
Man boarder	22
Total number of meals taken equivalent to	113

Equivalent to 1 man 38 days.

TABLE 87.—*Food materials used in dietary study No. 122.*

Kind of food material.	Composition.			Total cost.	Weight used.			
	Protein.	Fat.	Carbohydrates.		Total food material.	Protein.	Fat.	Carbohydrates.
ANIMAL FOOD.								
Beef:	*Per ct.*	*Per ct.*	*Per ct.*		*Grams.*	*Grams.*	*Grams.*	*Grams.*
Loin	15.9	17.6	......	$1.13	2,950	469	519	....
Rib, no bone	16.9	26.8	......	1.62	4,870	823	1,305	....
Round	18.1	12.6	......	.37	1.360	246	171	....
Total	......	......	......	3.12	9,180	1,538	1,995	....
Lamb:								
Breast, no bone	19.2	23.6	......	.18	1.220	234	288	....
Chops, no bone	17.6	28.3	......	.60	2,225	392	629	....
Total	......	......	......	.78	3,445	626	917	....
Pork, bacon	9.2	61.8	......	.15	455	42	281	....
Poultry, chicken, no bone	22.8	1.8	......	.60	1,300	296	24	....
Fish, salmon, California, fresh	16.1	14.8	......	.20	455	73	68	....
Eggs	13.1	9.5	......	.30	565	74	54	....
Butter	......	82.4	......	2.33	3,430	....	2,826	....
Cheese, Swiss	27.6	34.9	1.3	.15	225	62	79	3
Milk	3.3	4.0	5.0	2.10	25,650	846	1,026	1,283
Total animal food	......	......	......	9.73	44,705	3,557	7,270	1,286
VEGETABLE FOOD.								
Cereals, sugar, etc.:								
Barley	9.3	1.0	77.6	.02	140	13	1	109
Flour	11.3	1.1	74.6	....	60	7	....	45
Corn meal	8.9	2.2	75.1	.06	680	61	15	510
Oatmeal	15.6	7.3	68.0	.07	515	80	38	350
Rice	7.8	.4	79.0	.03	225	17	1	178
Bread, wheat, homemade	9.5	1.2	52.8	1.10	10,575	1.005	127	5,583
Bread, brown	5.0	2.4	50.7	.10	905	45	22	459
Cake	7.0	8.1	63.4	.37	2,185	153	177	1,385
Crackers	10.3	9.4	70.5	.05	225	23	21	159
Rolls	9.6	5.2	57.3	.09	625	60	33	358
Sugar, granulated	......	......	100.0	.67	5,895	....	....	5.895
Tapioca	.4	.3	87.5	.03	140	1	....	123
Total	......	......	......	2.59	22,170	1,465	435	15,154
Vegetables:								
Corn, canned	2.8	1.3	19.3	.16	905	25	12	175
Greens, soup	3.8	.9	8.9	.06	315	12	3	28
Onions	1.5	.4	8.9	.08	1,360	20	6	121
Potatoes, pared	2.1	.1	18.0	.46	13,360	281	13	2,404
Tomatoes, canned	1.2	.2	4.0	.12	905	11	2	36
Pickles	.5	.5	5.4	.36	1,670	9	8	92
Turnips, pared	1.4	.2	8.7	.02	595	8	1	52
Total	......	......	......	1.26	19.110	366	45	2,908
Fruits, nuts, etc.:								
Apples	.4	.4	12.4	.25	6,865	27	28	851
Apple, flesh	.5	.5	16.6	.10	2,270	11	11	377
Peaches	1.0	......	12.6	.20	1,135	11	....	143
Total	......	......	......	.55	10,270	49	39	1,371
Total vegetable food	......	......	......	4.40	51.550	1,880	519	19,433
Total food	......	......	......	14.13	96,255	5,437	7.789	20,719

TABLE 88.—*Weights and percentages of food materials and nutritive ingredients per man per day in dietary study No. 122.*

Kind of food material.	Weights.				Percentages of total foods.				
	Food material.	Protein.	Fat.	Carbohydrates.	Food material.	Protein.	Fat.	Carbohydrates.	Cost.
PER MAN PER DAY.	*Grams.*	*Grams.*	*Grams.*	*Grams.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Beef, veal, and mutton..	332	57	77	....	13. 1	39. 8	37. 4	....	27. 6
Pork, lard, etc	12	1	7	....	.5	.8	3. 6	....	1. 1
Poultry	34	8	1	....	1. 3	5. 4	.3	....	4. 2
Fish, etc	12	2	2	....	.5	1. 3	.9	....	1. 4
Eggs	15	2	1	....	.6	1. 4	.7	....	2. 1
Butter	90	....	74	....	3. 6	....	36. 3	....	16. 5
Cheese	6	2	2	....	.2	1. 1	1. 0	....	1. 1
Milk	675	22	27	34	26. 6	15. 6	13. 1	6. 2	14. 9
Total animal food.	1, 176	94	191	34	46. 4	65. 4	93. 3	6. 2	68. 9
Cereals, sugars, starches	584	38	12	399	23. 0	27. 0	5. 6	73. 2	18. 3
Vegetables	503	10	1	76	19. 9	6. 7	.6	14. 0	8. 9
Fruits	270	1	1	36	10. 7	.9	.5	6. 6	3. 9
Total vegetable food	1, 357	49	14	511	53. 6	34. 6	6. 7	93. 8	31. 1
Total food	2, 533	143	205	545	100. 0	100. 0	100. 0	100. 0	100. 0

There was no waste in this dietary. The cost and fuel value of the food purchased per man per day were as follows:

Cost and fuel value of food purchased and eaten per man per day.

	Cost.	Fuel value.
	Cents.	*Calories.*
Animal food	26	2, 425
Vegetable food	11	2, 300
Total	37	4, 725

TABLE 89.—*Summary of results of twenty-three dietary studies made in New York City—cost, nutrients, and fuel value of food purchased.*

	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY.					
Dietary study No. 30, mechanic's family:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Animal	18	91	119	29	1, 600
Vegetable	14	62	20	499	2, 485
Total	32	153	139	528	4, 085
Dietary study No. 31, carpenter's family:					
Animal	15	89	144	22	1, 795
Vegetable	8	62	10	437	2. 140
Total	23	151	154	459	3, 935
Dietary study No. 32, jeweler's family:					
Animal	12	61	81	29	1, 120
Vegetable	6	40	25	267	1. 490
Total	18	101	106	296	2, 610
Dietary study No. 33, sailor's family:					
Animal	16	81	136	8	1, 605
Vegetable	10	59	9	550	2, 585
Total	26	140	145	558	4, 190

TABLE 89.—*Summary of results of twenty-three dietary studies made in New York City—cost, nutrients, and fuel value of food purchased*—Continued.

	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY—continued.					
Dietary study No. 34, watchman's family:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Animal	10	51	87	25	1.125
Vegetable	4	36	9	271	1.340
Total	14	87	96	296	2.465
Dietary study No. 35, dyer's family:					
Animal	10	38	90	9	1,030
Vegetable	6	34	8	305	1,425
Total	16	72	98	314	2.455
Dietary study No. 37, carver's family:					
Animal	8	49	78	34	1,065
Vegetable	5	38	11	228	1.190
Total	13	87	89	262	2,255
Dietary study No. 38, sailors' boarding house:					
Animal	12	70	127	20	1,550
Vegetable	5	26	2	161	785
Total	17	96	129	181	2.335
Dietary study No. 47, truckman's family:					
Animal	13	53	113	18	1,340
Vegetable	10	51	16	326	1,690
Total	23	104	129	344	3,030
Dietary study No. 48, sewing woman's family:					
Animal	5	26	34	15	485
Vegetable	4	31	7	222	1.100
Total	9	57	41	237	1,585
Dietary study No. 51, shopkeeper's family:					
Animal	8	34	92	12	1.045
Vegetable	7	47	17	343	1,755
Total	15	81	109	355	2,800
Dietary study No. 52, housekeeper's family:					
Animal	8	42	82	41	1,105
Vegetable	10	51	22	468	2,330
Total	18	93	104	509	3,435
Dietary study No. 96, laborer's family:					
Animal	15	89	103	16	1,385
Vegetable	8	50	16	329	1.705
Total	23	139	119	345	3,090
Dietary study No. 97, porter's family:					
Animal	19	93	127	36	1,710
Vegetable	9	49	15	408	2,010
Total	28	142	142	444	3.720
Dietary study No. 106, printer's family:					
Animal	13	73	112	19	1,420
Vegetable	9	43	12	345	1,700
Total	22	116	124	364	3,120
Dietary study No. 107, truckman's family:					
Animal	12	71	120	50	1.610
Vegetable	10	65	15	545	2.640
Total	22	136	135	595	4.250
Dietary study No. 110, salesman's family:					
Animal	11	49	122	28	1,450
Vegetable	5	30	3	319	1,460
Total	16	79	125	347	2.910

TABLE 89.—*Summary of results of twenty-three dietary studies made in New York City—cost, nutrients, and fuel value of food purchased*—Continued.

	Cost.	Protein.	Fat.	Carbohydrates.	Fuel value.
PER MAN PER DAY—continued.					
Dietary study No. 111, tin roofer's family:	*Cents.*	*Grams.*	*Grams.*	*Grams.*	*Calories.*
Animal	15	62	118	21	1,440
Vegetable	5	37	7	306	1,470
Total	20	99	125	327	2,910
Dietary study No. 112, tin roofer's family:					
Animal	12	57	110	8	1,290
Vegetable	4	27	4	219	1,045
Total	16	84	114	227	2,335
Average of above 19 dietaries:					
Animal	**12**	**62**	**105**	**23**	**1,325**
Vegetable	**8**	**44**	**12**	**344**	**1,705**
Total	**20**	**106**	**117**	**367**	**3,030**
Dietary study No. 108, caretakers in day nursery:					
Animal	17	80	147	18	1,770
Vegetable	6	42	11	376	1,815
Total	23	122	158	394	3,585
Dietary study No. 109, builder's family:					
Animal	30	126	248	44	3,005
Vegetable	12	78	16	670	3,215
Total	42	204	264	714	6,220
Dietary study No. 147, same as dietary No. 109:					
Animal	26	109	201	41	2,485
Vegetable	15	78	18	682	3,285
Total	41	187	219	723	5,770
Dietary study No. 122, mission workers:					
Animal	26	94	191	34	2,425
Vegetable	11	49	14	511	2,300
Total	37	143	205	545	4.725